38' Series Boats Owner's Manual

Table of Contents

1. Introduction 1-1
2. Specifications and General Layout 2-1
3. Controls and Indicators 3-1
4. Principles of Operation 4-1
5. Getting Underway 5-1
6. Periodic Checks and Services 6-1
7. Storage for Extended Lay-Up 7-1
8. General Maintenance 8-1
9. Accessory Items 9-1
10. Troubleshooting 10-1

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Section 1 - Introduction

WELCOME ABOARD **1-2**
SKIPPER'S KIT **1-3**
Owner's Manual, 3 Ring Binder 1-3
Owner's Manuals, Envelopes 1-4

WARRANTY INFORMATION **1-5**
Dealership Responsibilities 1-5
Your Responsibilities 1-5
Warranty Service 1-5

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

WELCOME ABOARD!!

Welcome to the Cruistar Incorporated family of happy boat owners.

First off, we wish to thank you for making our **38' Aft Cabin** your recreational choice for boating enjoyment. Extensive design and engineering research went into the development of the **38' Aft Cabin**; and we feel that there is a beautiful balance between structural integrity and creature comforts.

You should know that your boat was manufactured by trained craftsmen in the tradition of meeting or exceeding existing safety and quality standards established by the U. S. Coast Guard and the Boating Industry of America.

Cruistar Incorporated has been manufacturing boats for over 35 years. We take pride in our craftsmanship and hull performance. We are confident you will enjoy the ride. For you, the **Cruistar Incorporated** name is your assurance that your boat will hold its value while providing many years of boating pleasure. We have made a commitment to this industry and are glad to have you as a partner.

Congratulations on your choice – let us know if we can be of further service.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

SKIPPER'S KIT

The skipper's kit contains the 38' Aft Cabin owner's manual bound in a three ring binder. Along with the binder there is either one or two envelopes which hold information about onboard systems and components furnished by suppliers other than Cruisers Incorporated.

Owner's Manual, 38' Aft Cabin (3 Ring Binder)

Spend some time looking through this manual. It contains information concerning the operation and care of your boat. The descriptions contained within the manual will introduce you to the features of the boat, and provide you with a general knowledge of how the equipment works. The manual is divided into ten sections, and each section is introduced by a table of contents to help you quickly find needed information. Become familiar with the material in each section before operating your boat.

Throughout the manual you will come across safety precautions labeled **⚠ WARNING** or **⚠ CAUTION**. **WARNINGS** indicate hazards or unsafe practices which could result in personal injury or death. **CAUTIONS** indicate situations which could result in damage to the boat and its various systems.

Section 1 contains a description of the skipper's kit and information about the warranty.

Section 2 contains boat specifications such as dimensions and capacities. There are also layout diagrams to introduce you to floorplans as well as the locations of various components.

Section 3 contains descriptions of all the controls and indicators on the dash of the bridge command station and lower station helm (optional).

Section 4 contains principles of operation for the major systems onboard the 38' Aft Cabin. Look in this section for electrical schematics.

Section 5 contains instructions for operating the boat. The section begins with safety information which is "must" reading.

Section 6 contains maintenance instructions for services that need to be performed on a regular basis.

Section 7 contains instructions for storing the boat for extended periods of time, and prep instructions for after storage.

Section 8 contains information about the care of your boat, and how to repair minor damage.

Section 9 contains information about the standard and optional accessory items which complement your new Cruisers boat.

Section 10 contains a brief troubleshooting section.

Downloaded from CruisersOwnersForum
http://www.cruisersownersforum.com

Owner's Manuals and Pamphlets, Systems and Components [Envelope(s)]

Spend some time becoming familiar with all the information contained in the envelope(s), because this information is not duplicated in your Aft Cabin Owner's Manual. Besides containing separate warranty information, the envelope(s) contain manuals and pamphlets which provide important safety, operating, and maintenance instructions for those systems and components not manufactured by Cruistar Inc. Depending on the options you chose, the envelope may contain some or all of the following manuals:

- Engine Operation/Maintenance (Gas or Diesel)
  -Electrical schematic
- Generator Operation/Maintenance (Gas or Diesel)
  -Electrical schematics
  -Service centers directory
- RACOR Fuel Filter/Water Separator (Diesel)
- Halon Fireboy Pamphlet
- AC/DC Panel Information Packet
- Refrigerator/Freezer User Guide
- Microwave User Manual
- Electric Stove and Oven Manual
- Trim Planes Manual
- Hydraulic Steering Manual
- AC powered Battery Charger Manual
- Hot Water Heater Manual
- Electric Marine Toilet Manual
- Electric Anchor Windlass Operation/Maintenance Manual
- Air Conditioner Information Packet
- Stereo Equipment Operation Manual(s)
- Compass Owner's Handbook
- TV Antenna Instruction Guide
- Carbon Monoxide (CO) Detector Handbook (Gas only)
- Color TV Owner's Manual
- VCR Owner's Manual
- Icemaker User Guide
- Macerator Pump Operation
- Gas Fume Detector Manual
- Federal Requirements for Recreational Boats Pamphlet
- Insurance Questionaire
- Gel Coat Order Form
- Cruisers Personal Accessories and Wearables Brochure
- Beverage Dispenser User Guide
- Coffee Maker/Blender User Manual
- Forward and Aft Staterooms TV, with Remote Control, Owner's Manual
- Trash Compactor Owner's Manual
- Vacuum System, Control User Guide
- Washer/Dryer Owner's Manual

Downloaded from CruisersForum
http://www.CruisersForum.com

WARRANTY INFORMATION

Warranties for onboard systems and components furnished by suppliers other than Cruistar are located in the envelope(s) inside the skipper's kit. Your Cruistar Dealer will go through these with you. It is your responsibility to fill out any warranty registration that may be required.

The warranty provided by Cruistar Inc. is printed on the last page of this manual. You and the Cruistar Dealership have certain responsibilities to fulfill to keep the warranty in force.

Dealership Responsibilities

1. The dealer will discuss the terms of all warranties, and stress the importance of registering warranties with the appropriate manufacturers.

2. The dealer will provide instruction for obtaining warranty service.

3. The dealer will go over the predelivery service record with you, and then sign it to certify that all work has been accomplished.

4. The dealer will provide you with a thorough instruction in the operation of your boat and all its systems.

Your Responsibilities

1. Sit down with the dealer and go over all warranties. Fill in the Cruistar limited warranty registration card which is located in an envelope inside the skipper's kit. Keep a record of the hull number for future reference.

2. Inspect the boat at the time of delivery to ensure that all systems are operating properly.

3. Sit down with the dealer and go over the predelivery service record. Sign this record to indicate that it has been explained to you.

4. Operate all equipment per the manufacturer's instructions.

5. Cruistar Inc. recommends that you refer to your engine warranty for initial inspection and service requirements.

6. Perform or provide for the appropriate periodic maintenance outlined in the owner's manuals and service guides.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Warranty Service

You are entitled to all the benefits and services set down in the warranties. If a problem arises with your Cruisers boat as a result of workmanship or materials, contact your Cruistar Incorporated dealer as soon as possible. Please have your hull identification number, and necessary model numbers on hand for the items that may need service or repair. Your hull identification number is located below the rub rail on the starboard side of the transom.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Section 2 - Specifications and Layout

SPECIFICATIONS **2-2**
Dimensions 2-2
Displacement 2-2
Deadrise 2-2
Freeboard 2-2
Capacities 2-2
Power 2-2

GENERAL LAYOUT **2-3**
Belowdecks - 3850 2-3
Flybridge, Deck, and Cockpit 2-4
Engine Compartment and Bilge Layout 2-7
Exterior Lighting 2-9

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

SPECIFICATIONS

Dimensions

LOA ..... 39'
LOA w/pulpit ..... 41'6"
LWL ..... 29'9" (approx)
Maximum beam at gunwale ..... 14'
Maximum beam at chine ..... 11'10"
Draft ..... 3'1-1/2" (Gas Engine)
Height ..... 3'2-1/2" (Diesel Engine)
  Keel to top of radar arch ..... 16'11-1/4"
  Water to top of radar arch ..... 14'9"
  Radar arch to top of mast light ..... 2'1/2"
Bridge Clearance ..... 16'9-1/2"

Displacement

Diesel (less fuel and water) ..... 21,500 lbs
Gasoline (less fuel and water) ..... 20,000 lbs

Deadrise

FWD at LWL ..... 41°
AFT at Transom ..... 14°

Freeboard

FWD ..... 5'4-1/2" at bow
AFT ..... 3'2-1/2" at break-in shear, just before swim plate

Capacities

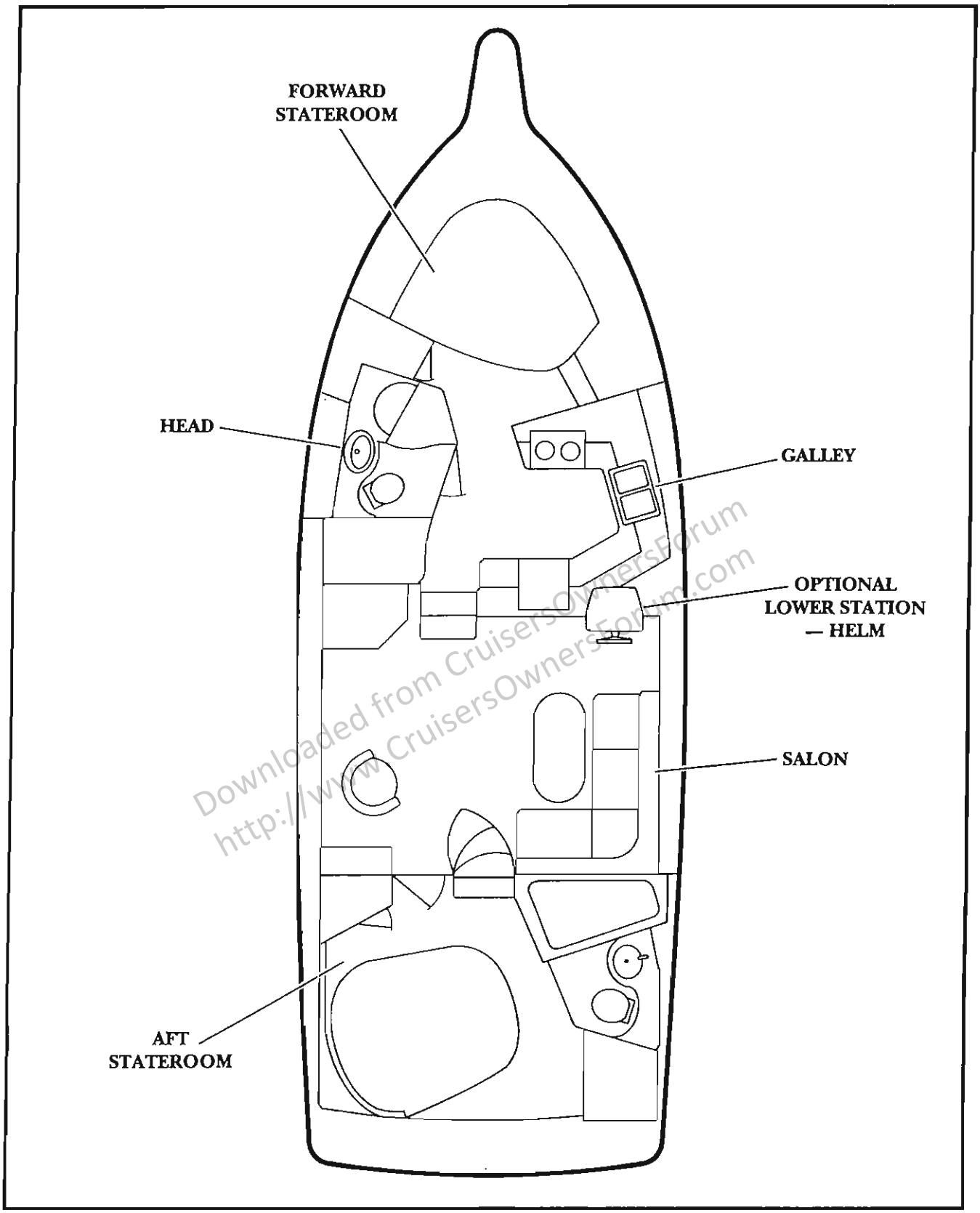
Fuel, Twin tanks ..... 200 gallons each tank
Freshwater ..... 100 gallons
Waste ..... 40 gallons

Power

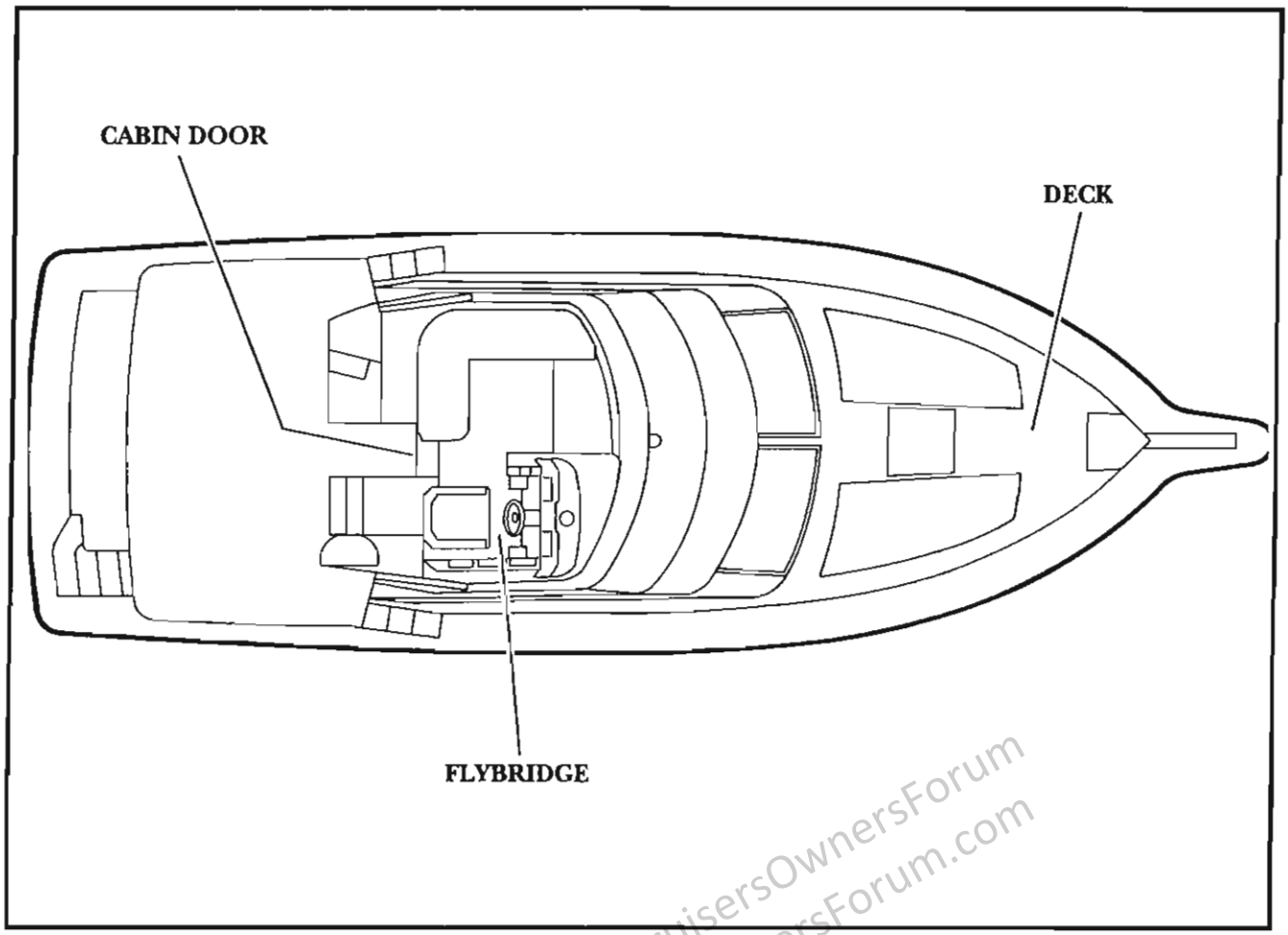
Crusader twin 300 counterrotating inboards
or
Crusader twin 355 counterrotating inboards
or
MerCruiser twin 330 counterrotating inboards
or
MerCruiser twin 410 counterrotating inboards
or
Volvo Penta twin 306, TAMD 61 diesel, counterrotating inboards

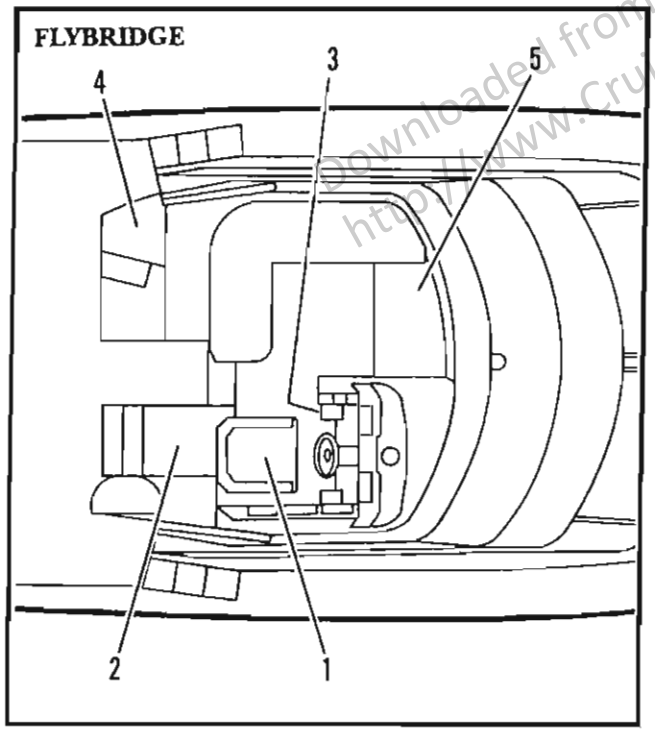
Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

GENERAL LAYOUT
Belowdecks - 3850



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com



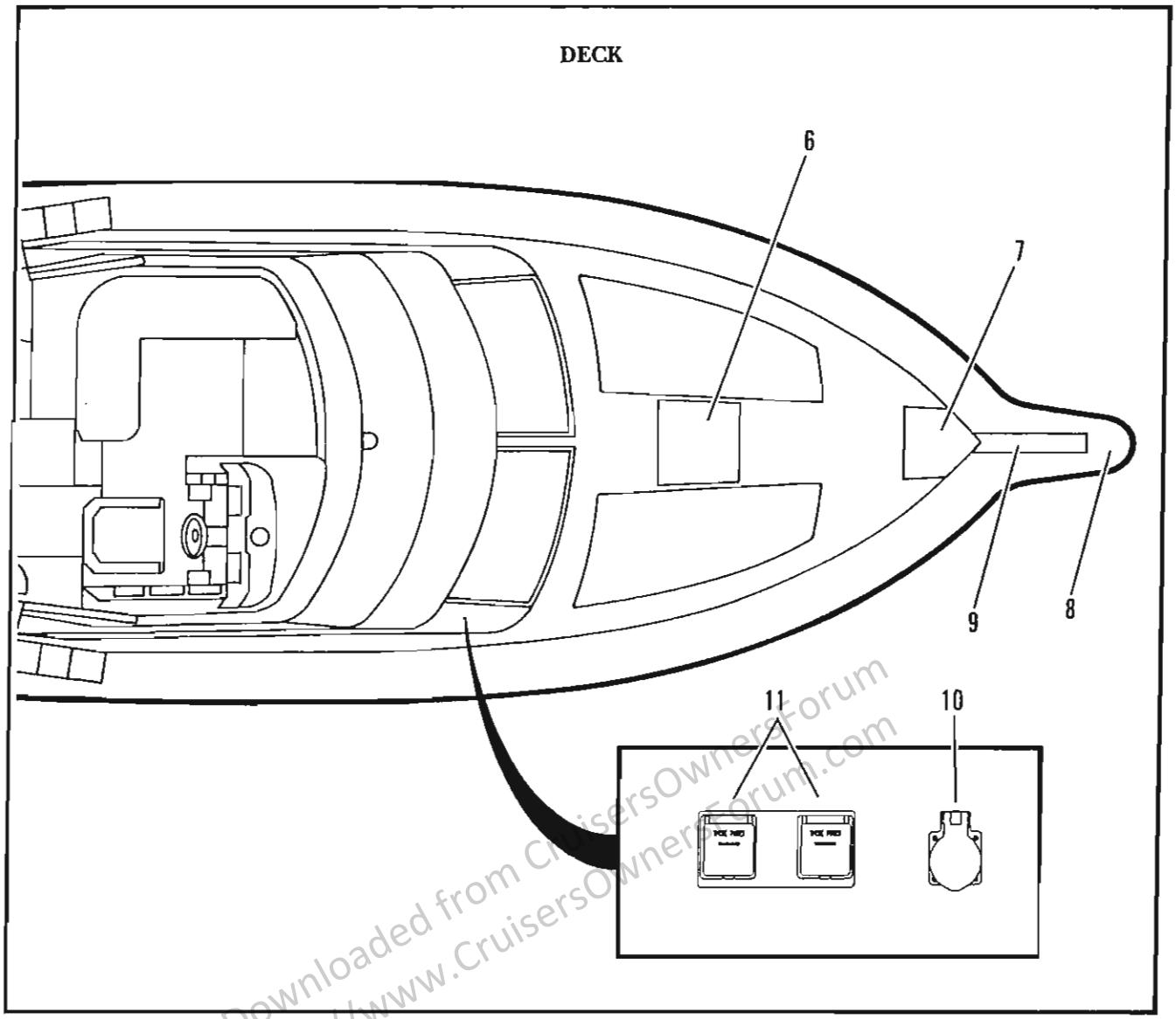


Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Flybridge and Deck

FLYBRIDGE

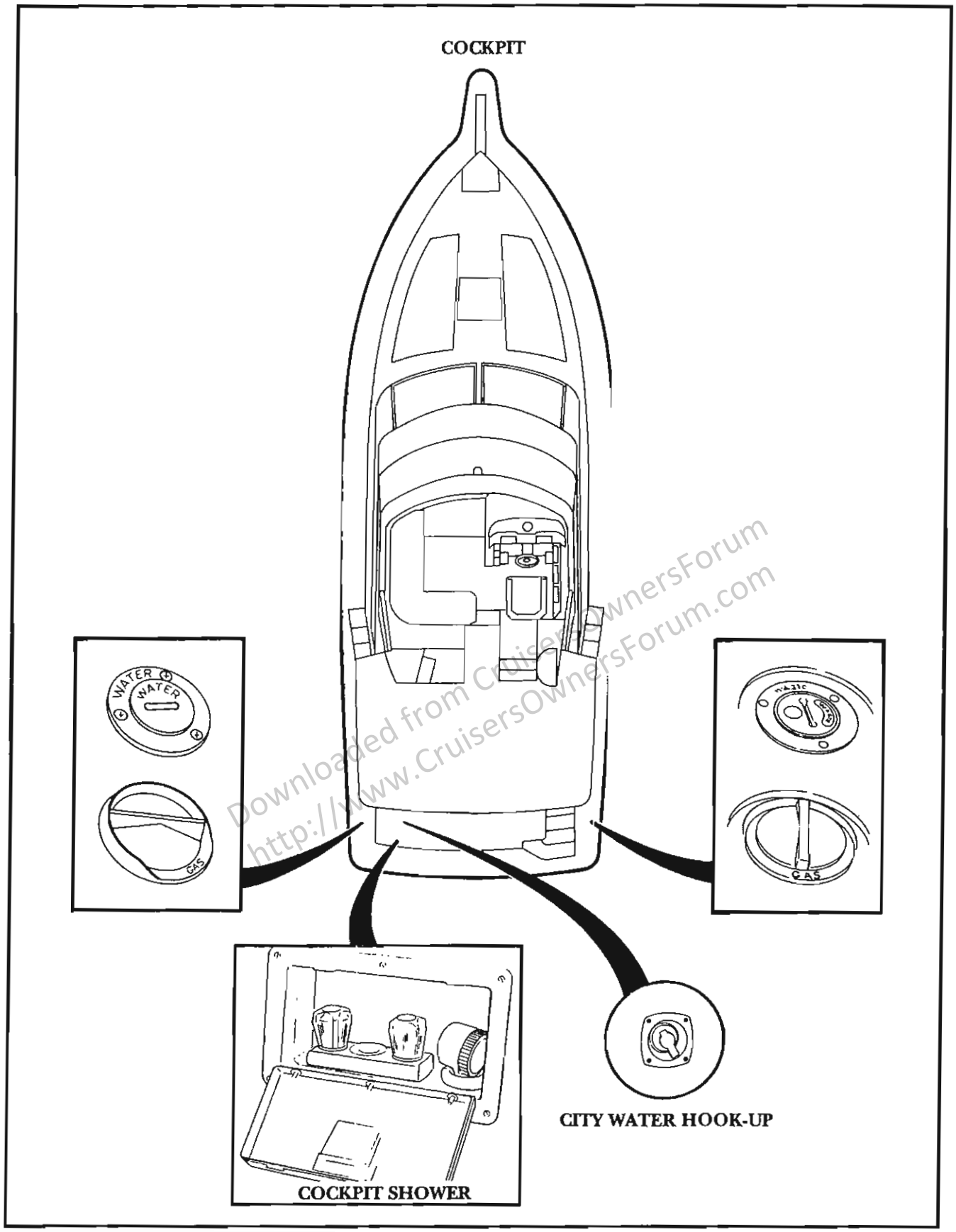
1. Single station command bridge with complete marine instrumentation
2. Bridge-to-cabin stairway
3. Fire extinguisher
4. Wet bar
5. Flybridge lounge



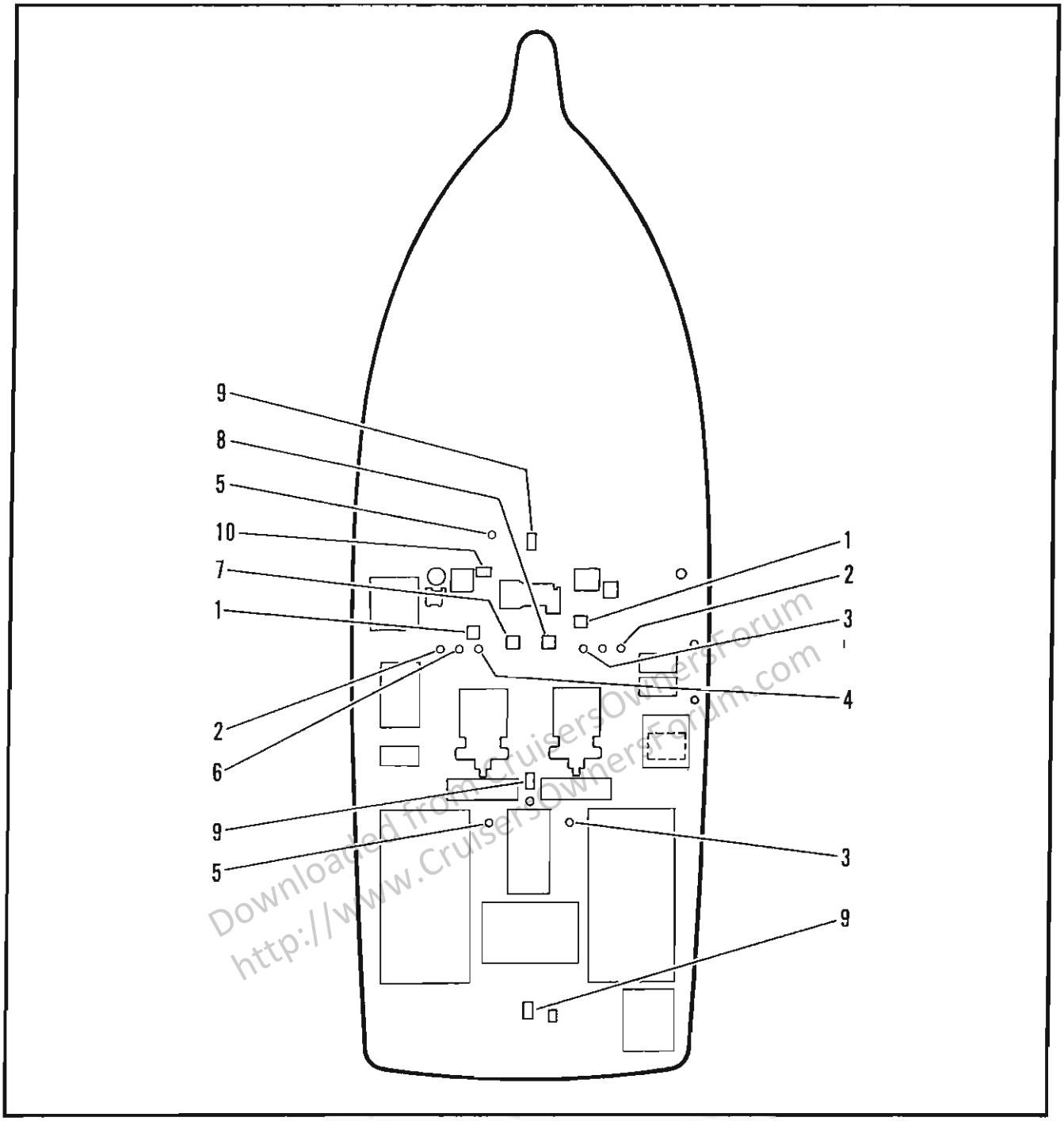
Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

DECK

6. Bow hatch w/screens
7. Bow rope locker
8. Bow pulpit
9. Stainless steel anchor roller
10. Dockside phone and cable TV hook-up
11. Shore power hook-up



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

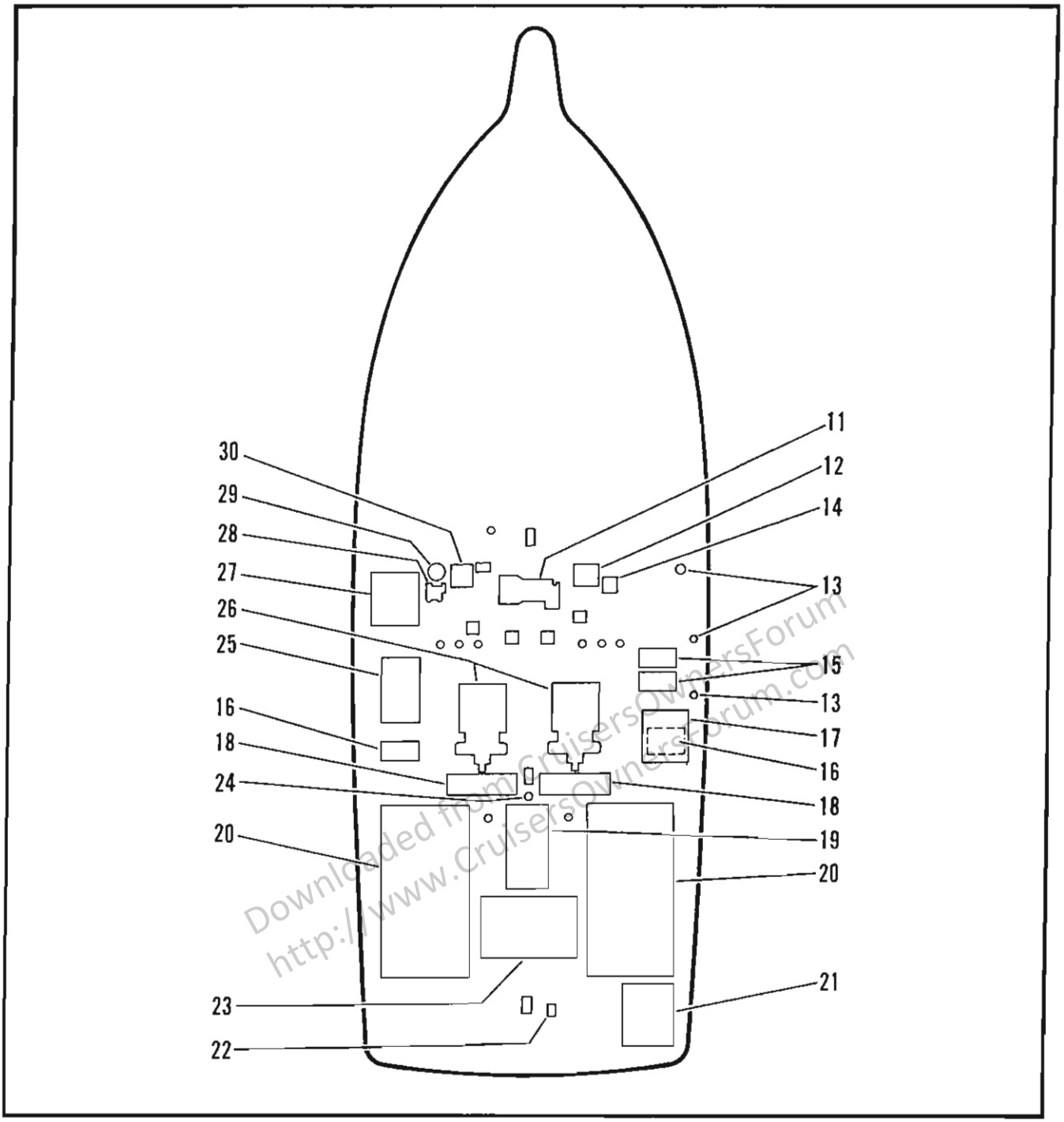


Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Engine Compartment and Bilge Layout

SEACOCKS AND STRAINERS

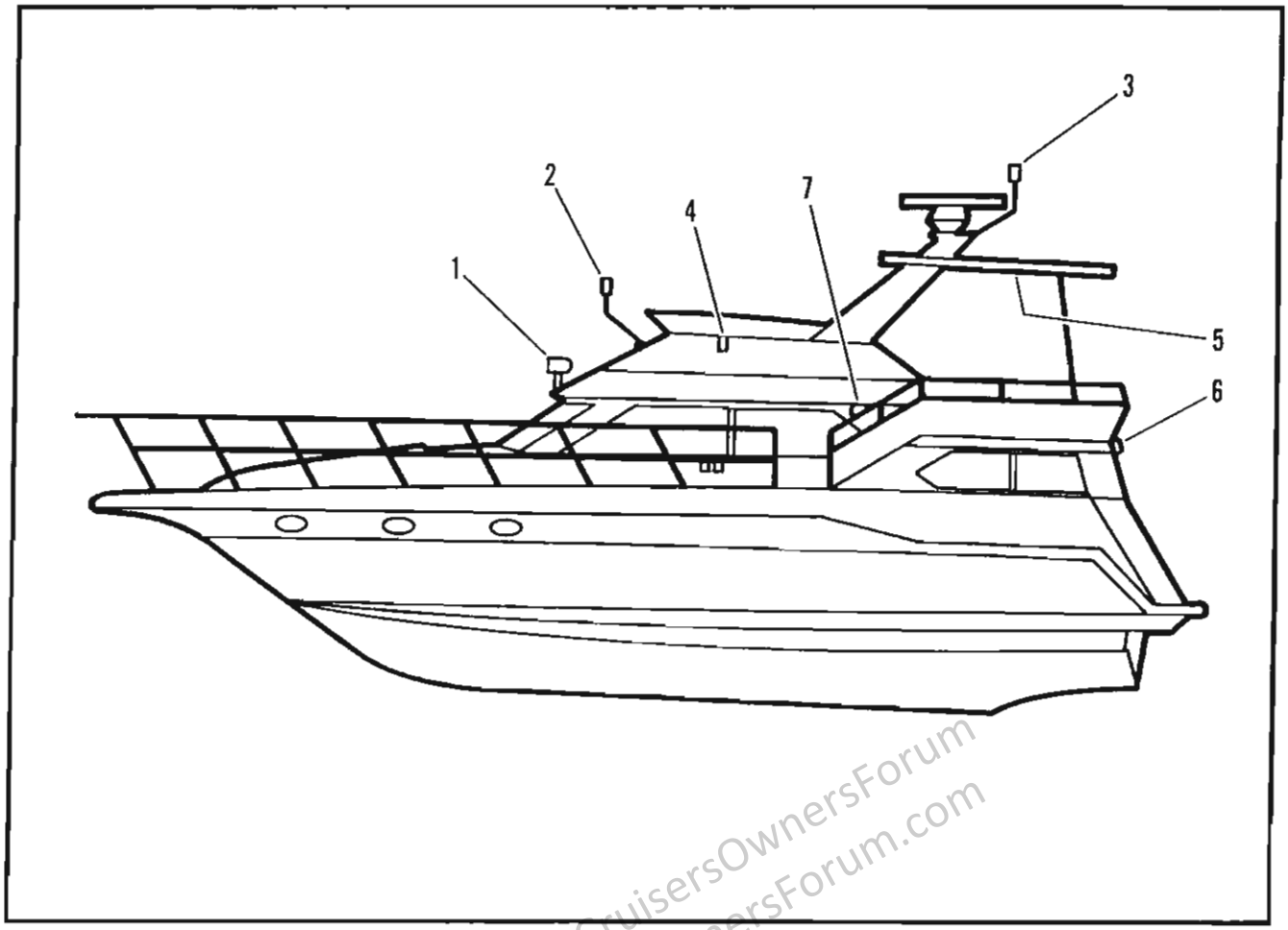
1. Engine cooling water strainer
2. Engine cooling water seacocks
3. Head outlet water seacocks
4. Air conditioner seacock
5. Head inlet water seacocks
6. Generator cooling water seacock
7. Generator cooling water strainer
8. Air conditioner strainer
9. Bilge pumps
10. Battery isolator



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

COMPONENTS

11. Generator
12. Battery charger
13. Bilge blowers
14. Air conditioner seawater pump
15. Auxiliary battery
16. Battery
17. Salon air conditioner
18. Engine muffler
19. Waste tank
20. Fuel tank
21. Aft stateroom air conditioner
22. Trim tab pump
23. Freshwater tank
24. HALON extinguisher
25. Hot water heater
26. Engine
27. Forward stateroom air conditioner
28. Freshwater pump
29. Freshwater pressure accumulator
30. Generator muffler



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Exterior Lighting

1. Spotlight
2. FWD mast light (International only)
3. AFT mast light (all)
4. Navigation lights
5. Courtesy lights
6. Stern light
7. Boarding light

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Section 5 - Getting Underway

SAFE BOATING **5-2**
Safety Checks 5-2
Boating Rules and Regulations 5-4
Safety Precautions for Engine Exhaust 5-6

OPERATING INSTRUCTIONS **5-7**
Pre-Start Checklist 5-7
Starting Gas Engines 5-8
Starting Diesel Engines 5-9
Stopping Gas Engines 5-11
Stopping Diesel Engines 5-11
Fueling 5-11
Suggested Maneuvering Techniques 5-12
Dropping and Weighing Anchor 5-16
Towing the Boat 5-17

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

SAFE BOATING

Safety Checks

Safe boating is one of the requirements for pleasant boating! Use common sense and safe practices while enjoying your boat. Use the following safety checks; you are responsible for the safety of your passengers as well as others in and on the water.

- Keep your boat and equipment in good condition; inspect the hull, engines, power train and all gear frequently.
- Use care when fueling boat. Gas in the bilge is extremely dangerous! Make sure there are no fumes in your boat before starting the engine.
- Know your fuel tank capacity and engines' fuel consumption. Be sure you have enough fuel to reach your destination with adequate reserve for course changes due to weather or other problems.
- Regularly check all safety equipment such as fire extinguishers, life preservers, flares, horn, etc. They should be in good condition, readily visible and easily accessed.
- Keep up-to-date navigational charts of areas to be traveled onboard.
- Make a practice of letting someone know your travel plans and route; leave a float plan with someone.
- Check local weather reports before casting off. Watch the weather! Be on the lookout for strong winds and electrical storms.
- Do not overload or improperly load your boat.
- Require good boat shoes be worn by all passengers to avoid slipping.
- Passengers should be instructed how to use all safety equipment. Each person must have a life preserver. Children and non-swimmers should wear life preservers at all times.
- Don't allow passengers to ride on parts of the boat not designed for that use. Do not store equipment or climb on the radar arch or optional hardtop.
- Instruct at least one passenger in the basics of operation and handling of your boat in case you are disabled or fall overboard.
- DO NOT use the swim platform or boarding ladder while the engines are running. Turn engine off when swimmers or skiers are getting in or out of the water.
- Obey all navigational rules!
- If uncertain of water depth, proceed slowly and with caution!

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Sample Float Plan

Copy this page and fill out the copy before going boating. Leave the filled out copy with a reliable person who can be depended upon to notify the Coast Guard, or other rescue organization, should you not return as scheduled. DO NOT file this plan with the Coast Guard.

Name _____ Telephone _____

Description of Boat: Type _____ Color _____ Trim _____

Registration Number _____

Length _____ Name _____ Make _____

Other Info. _____

Persons Aboard: Name Age Address & Telephone

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

Engine Type: _____ HP _____

No. of Engines: _____ Fuel Capacity: _____

Survival Equipment:

PFD's _____ Flares _____ Mirror _____

Smoke Signals _____ Flashlight _____ Food _____

Paddles _____ Water _____ Anchor _____

Raft or Dinghy _____ EPIRB _____

Radio: Yes ___ No ___ Type _____ Freq _____

Trip Expectations: Departure Time _____ Leaving From _____

Destination _____ Est. Time of Arrival _____

Expect to Return By _____

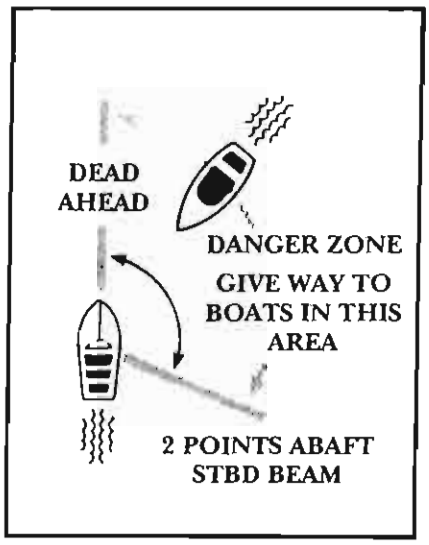
Auto Type _____ License No. _____ Parked _____

If not returned by _____ call the Coast Guard, or _____

(Local Authority). Coast Guard Telephone Number: _____

Local Authority Telephone Number: _____

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com



BOAT APPROACHING

Boating Rules and Regulations

BASIC RULES FOR SAFE BOATING

- Your boat must be registered and licensed in the state of principle use.
- Give right of way to slower boats, rowboats and sailing craft.
- Keep to the right! Observe the Danger Zone and give right of way to boats in this zone.
- Do not use your motors near swimmers or divers.
- Learn the language of the various buoys and warning signals.

GOVERNMENT REGULATIONS

The Coast Guard is the authority of the waterways; they are there to help the boating public. You and your boat are subject to marine traffic laws and "Rules of the Road" that are enforced by the Coast Guard.

There are many pamphlets, prepared by the Coast Guard, available to you. These pamphlets explain "Rules of the Road", signal lights, buoys, safety, international and inland regulations and more than is discussed here. For more information contact your local U. S. Coast Guard unit, U. S. Coast Guard Headquarters, 1300 E Street NW, Washington, D.C. 20226 or call the Coast Guard Boating Safety Hotline at 1-800-368-5647.

There are also many boating safety courses available to the public. Call toll-free "Courseline" 1-800-336-2628 to find out what courses are offered in your area.

The minimum standards of safety as required by the U. S. Coast Guard for your boat are listed below. You MUST equip your boat to meet or exceed these requirements.

- At least one Coast Guard approved, Type I, II or III, personal flotation device (life jacket) for each person aboard. If you are more than 20 miles offshore, you must have Type I.
- At least one Coast Guard approved, Type IV, throwable flotation device – ring or cushion.
- At least two Type B-I or one Type B-II hand-held fire extinguishers.
- At least three Coast Guard approved, hand-held red pyrotechnic (flare-type) distress signals:
  Night Use -three aerial red pyrotechnic distress signals
  Day Use -three international orange smoke signals
- All pyrotechnic devices must be stowed in waterproof, non-glass containers.
- One hand, mouth or power operated whistle or horn that can be heard for at least one-half mile.
- A bell with a mouth diameter of at least 7.9 inches.

The Coast Guard also recommends you carry an anchor, anchor line, mooring lines, fenders, first aid kit, waterproof flashlight, spare fuses, electrical tape and tool kit.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

SIGNALS AND RULES OF THE ROAD

- Learn and observe the United States Weather signals. Red and black flags are used by day and red and white lights are used at night.

  Small Craft Warning
  Forecast is for winds up to 38 mph (34 knots) and/or sea conditions dangerous to small craft.

  Gale Warning
  Forecast is for winds from 39 to 54 miles an hour (34 to 48 knots).

  Whole Gale Warning
  Forecast is for winds from 55 to 73 miles an hour (48 to 63 knots).

  Hurricane Warning
  Forecast is for winds in excess of 74 miles an hour (64 knots).

- Obey marker flags.
  A red flag with a diagonal white stripe, or the "A" flag, indicates a skin diver in the area.

  A solid orange flag with a black square atop a black ball indicates distress. Either the boat or a passenger is in serious trouble.

- Recognize the different buoys; they are the waterway road markers. There are three types of buoys:

  NUN – Cone shape
  SPHERE – Spherical shape
  CAN – Cylindrical shape

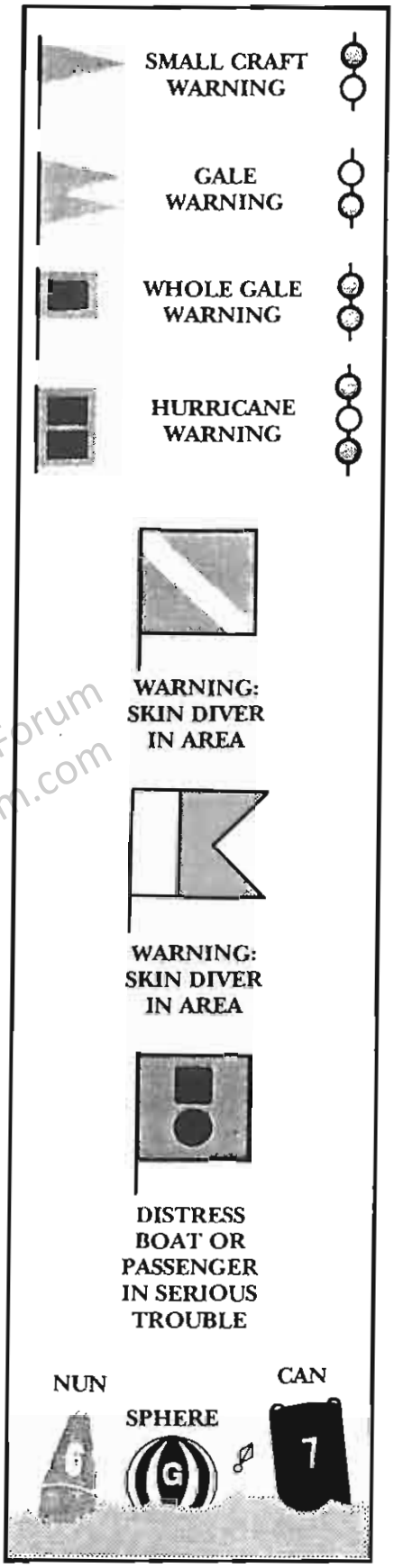
  When entering port or going upstream, the PORT (left) side of the channel is marked with GREEN, ODD numbered can buoys. The STARBOARD (right) side of the channel is marked with RED, EVEN numbered nun or spar buoys.

  The middle of the channel is marked with RED and WHITE vertically striped spherical or can buoys; always pass close to the buoys. Can buoys will have a spherical topmark.

  Obstructions, channel junctions, etc. are marked with RED and GREEN horizontally striped buoys. A RED band at the top means the preferred channel is to the left of the buoy; a GREEN band means the preferred channel is to the right of the buoy. These buoys are sometimes lettered, but never numbered.

  Lights, bells and horns are used on buoys for night or poor visibility conditions.

- Know whistle signals!
  One Long Blast: Warning Signal (Coming out of slip)
  One Short Blast: Pass on my port side
  Two Short Blasts: Pass on my starboard side
  Three Short Blasts: Engines in reverse
  Four or More Blasts: Danger Signal



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

- If there is a ship-to-shore radio telephone aboard, answer any distress calls. "MAYDAY" is the international signal of distress. NEVER use this word unless there is an emergency and assistance is needed immediately.

DISCHARGE OF OIL

The discharge of oil or oily waste into or upon navigable waters of the United States or of the contiguous zones is strictly prohibited by the Federal Water Pollution Control Act. If such a discharge occurs and causes a film or sheen upon or discoloration of the surface of the water, or causes an emulsion or sludge beneath the surface of the water, the violators are subject to a penalty of $5,000. Notify the Coast Guard immediately or call toll-free 1-800-424-8802 to report any such incident.

Safety Precautions For Engine Exhaust

WARNING

DO NOT inhale exhaust fumes! Exhaust contains carbon monoxide. Carbon monoxide is colorless, odorless and potentially lethal.

The carbon monoxide present in exhaust fumes can be extremely hazardous. Direct, prolonged exposure will cause brain damage or death. Incoherence, drowsiness, loss of consciousness, headaches, nausea and vomiting are some symptoms of exposure to carbon monoxide.

If you think exhaust fumes are entering your boat, correct the problem immediately. Observe the following safety precautions:

- Be alert for the odor of exhaust fumes.
- A natural vacuum created while underway in certain wind and sea conditions may allow exhaust to be drawn into the cabin. Adjust the direction of the boat while underway as necessary to alleviate the presence of exhaust fumes.
- Do not allow the boat to remain stationary with the engine running for any extended period.
- Use care when operating engines or generator in confined areas. Exhaust fumes can enter the boat even with all windows, doors and hatches closed.
- Never operate the generator or leave the engine running if the exhaust port is obstructed.
- NEVER run the engines or generator while everyone onboard is sleeping. If a person is sleeping, be sure adequate fresh air ventilation is provided.
- If your boat is equipped with a forward hatch or windshield side vents, OPEN THEM while underway.
- If you choose to be underway with canvas up, you must vent the forward area to clear the cockpit of fumes.
- Inspect the engine exhaust system frequently for tightness of clamps and hoses. If you notice a change in engine sound, check all exhaust connections.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

OPERATING INSTRUCTIONS

Pre-Start Checklist

Before starting the engines, perform the following checks and procedures:

- See Section 6-PERIODIC MAINTENANCE, Before Every Use.
- Your craft should be securely moored to the dock or slip. The boat should remain moored until the engines are warmed up and properly running.
- Check weather conditions and forecasts.
- Check all life saving devices. Make sure there is one life jacket for each person aboard.
- Check capacity rating plate. Do not leave the dock with an overloaded craft!
- Open windows, doors and all floor hatches. Check for fuel fumes and water in the bilge areas.
- Operate bilge blowers for at least four minutes before starting engines. Allow the blowers to run until cruising speed is attained.
- Check engine and transmission oil levels. If equipped, check fresh water coolant level.
- Check gas fuel valves to make sure fuel can flow to engines.
- Check diesel fuel valves to make sure fuel can flow to engines.
- Open seacocks for engine cooling water, head flush water, air conditioning water, etc., as equipped.
- Check steering control, throttle and shift control linkage. Look for hydraulic leaks. Make sure all connecting hardware is tight.
- Check battery charge.
- Check fuel supply.

IMPORTANT

DO NOT rely on the accuracy of gauges. Readings are only approximate and should always be compared to the hours of use multiplied by the known fuel consumption (GPH).

- Check all electrical components such as the horn, lights, and bilge pumps to be sure they are in proper working order.
- Make sure shift control levers are in the NEUTRAL position.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Starting Gas Engines

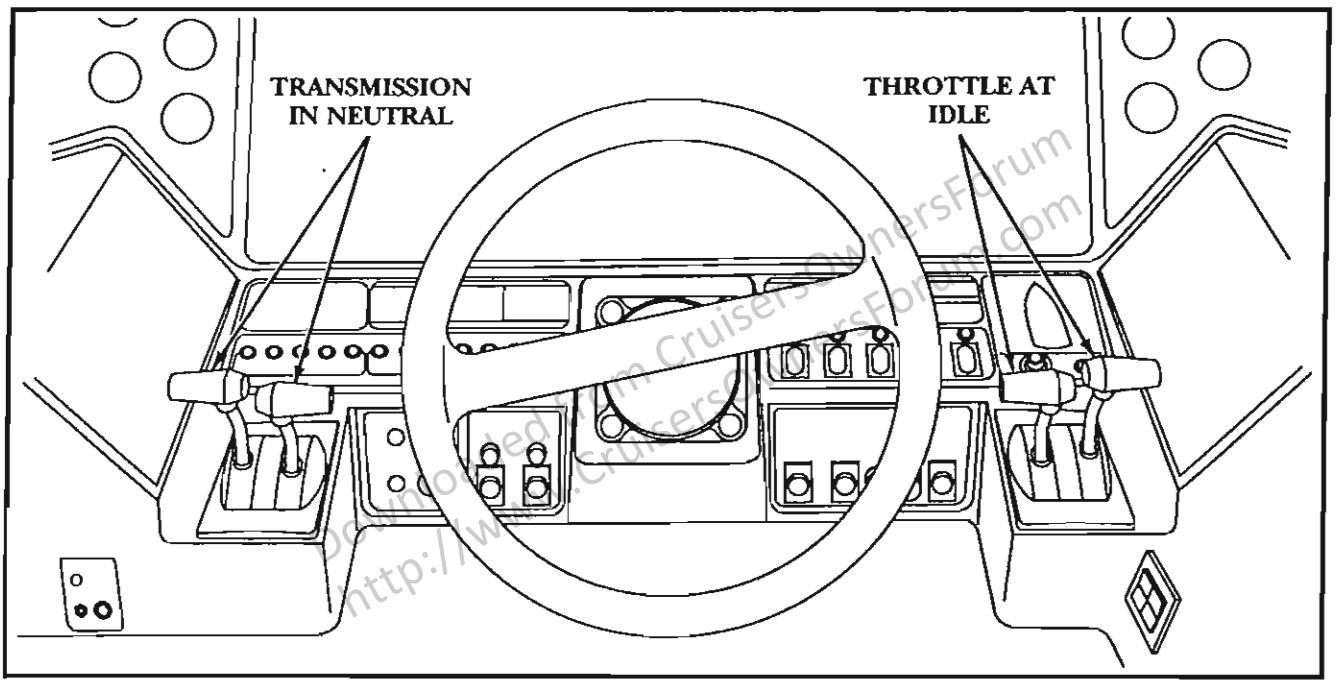
After pre-start checks and procedures have been followed, the engines can be started. Follow the step-by-step instructions below, but be sure to read the Engine Owner's Manual for manufacturer's recommendations.

WARNING

Always start engines with shift control levers in neutral. Your boat is equipped with neutral safety switches which will not allow engines to be started unless shift control levers are in neutral position.

Step 1. With ignition key switches off, put both shift control levers in neutral position.

Step 2. Move each throttle lever forward to full throttle position and back to idle position. Throttle linkage and cable must move smoothly.



Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

Step 3. Turn key switch of one engine to START position. Release key immediately after engine starts. The key is spring loaded and will return to the RUN position.

CAUTION

Failure to release ignition key after engine starts may damage the starter motor and drive.

Do not operate starter continuously for more than 30 seconds. Allow starter to cool at least 2 minutes between starting attempts.

In cold weather, it may be necessary to move the throttle lever back and forth 3 or 4 times while the starter is operating. This will actuate the carburetor accelerator pump and feed more fuel to the engine for starting. DO NOT move throttle lever back and forth if the engine is warm; this will flood the engine.

Step 4. Operate the engine at approximately 1000 RPM and check the oil pressure gauge. If oil pressure is not within specified range STOP ENGINE IMMEDIATELY and determine the cause.

Step 5. Repeat starting procedure for the second engine.

IMPORTANT

The second engine may be difficult to hear when it starts due to the noise of the first engine. Observe the tachometer of the second engine. When the RPM's "jump up", release the key switch immediately.

Step 6. Allow engines to warm up. Check water temperature gauges to be sure water temperature remains within the specified range. If temperature gauge reads abnormally high, STOP ENGINE IMMEDIATELY and determine the cause.

Step 7. Check engine exhausts to see that they are discharging water. Water circulation in the engines should take place shortly after starting.

Step 8. Inspect for any fuel, oil, water and exhaust leaks.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Starting Diesel Engines

After pre-start checks and procedures have been followed, the engines can be started. Follow the step-by-step instructions below, but be sure to read the Engine Owner's Manual for manufacturer's recommendations.

WARNING

Always start engines with shift control levers in neutral. Your boat is equipped with neutral safety switches which will not allow engines to be started unless shift control levers are in neutral position.

Step 1. With ignition key switches off, put both shift control levers in neutral position.

Step 2. Move throttle lever of engine to be started to approximately one-half throttle position.

Step 3. Turn key switch of engine to START position (position "111"). Release key immediately after engine starts. The key is spring loaded and will return to the RUN position.

⚠ *CAUTION*

Failure to release ignition key after engine starts may damage the starter motor and drive.

Do not operate starter continuously for more than 30 seconds. Allow starter to cool at least 2 minutes between starting attempts.

Step 4. Operate the engine at approximately 1400 RPM and check the oil pressure gauge. If oil pressure does not rise to specified range in 15 seconds, STOP ENGINE IMMEDIATELY and determine the cause.

Step 5. Repeat starting procedure for the second engine.

IMPORTANT

The second engine may be difficult to hear when it starts due to the noise of the first engine. Observe the tachometer of the second engine. When the RPM's "jump up", release the key switch immediately.

Step 6. Allow engines to warm up. Check water temperature gauges to be sure water temperature remains within the specified range. If temperature gauge reads abnormally high, STOP ENGINE IMMEDIATELY and determine the cause.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

Step 7. Check engine exhausts to see that they are discharging water. Water circulation in the engines should take place shortly after starting.

Step 8. Inspect for any fuel, oil, water and exhaust leaks.

Stopping Gas Engines

Step 1. Move throttle control levers to idle position.

Step 2. Put shift control levers in neutral position.

Step 3. Turn key switches counterclockwise to OFF position.

Stopping Diesel Engines

Step 1. Move throttle control levers to idle position.

Step 2. Put shift control levers in neutral position.

Step 3. Move throttle control levers forward until engine RPM is no more than 1400 RPM. Operate engines for 5 minutes at this speed to cool engines.

Step 4. After cooling engines, move throttle control levers back to idle position.

Step 5. Turn engine key switches to STOP position (position "R").

Step 6. When engine rotation stops, turn key switches counterclockwise to position "O".

Fueling

Refer to your engine owner's manual for the fuel type and octane rating recommended for your particular engine. Your dealer may have fuel suggestions relative to climate conditions and the use of your boat.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

WARNING

All precautions must be taken every time you fuel your boat, whether it's gasoline or diesel fuel. Diesel fuel is non-explosive, but it will burn!

Use the following precautions before fueling to avoid fire and explosion:

- Make sure your boat is securely moored to the dock.
- Stop engines, fans, galley fires and any other device that can produce a spark or flame.
- Close all windows, doors and hatches to keep fumes from entering the boat.
- Disembark all people not needed for fueling the boat.
- Prohibit all smoking in the area.
- Locate the nearest fire extinguisher for use if needed.

While fueling, keep the fill nozzle in contact with fill opening of the tank to protect against any static sparks or spilling fuel.

Do not fill the tanks until fuel flows from the vents. Allow room in the tanks for fuel expansion.

When tanks are full, close fuel openings and clean up any spilled fuel. Wash the areas around the fuel caps and vents. Dispose of rags properly on shore.

IMPORTANT

Spilled fuel may yellow the fiberglass gel coat and damage accent tapes.

Open all windows, doors and hatches. Operate the bilge blowers (if your boat is so equipped) for at least four minutes. Fuel fumes are heavier than air and will sink to the lowest part of the boat.

Before starting the engines, check for any fumes or leaks in the bilge. Ventilate the boat until the fumes are no longer present. Repair any leaks immediately.

Suggested Maneuvering Techniques

GENERAL GUIDELINES FOR MANEUVERING

- Practice Makes Perfect! Start in calm water with no wind and lots of room until you get the feel for the boat and its controls.
- Forget the Steering Wheel! The rudders are basically useless at slow speeds. Put your hands on the control levers and leave the steering wheel alone.
- Recognize the Outside Forces! Check the wind direction and velocity, as well as the water currents. Use the external forces to your advantage when maneuvering; don't fight them.
- Proceed Slowly! Give yourself time to think, react, and maneuver.
- Have the Crew Standing By! Hands ready with fenders, boat hook and lines can assist greatly as you approach a dock.

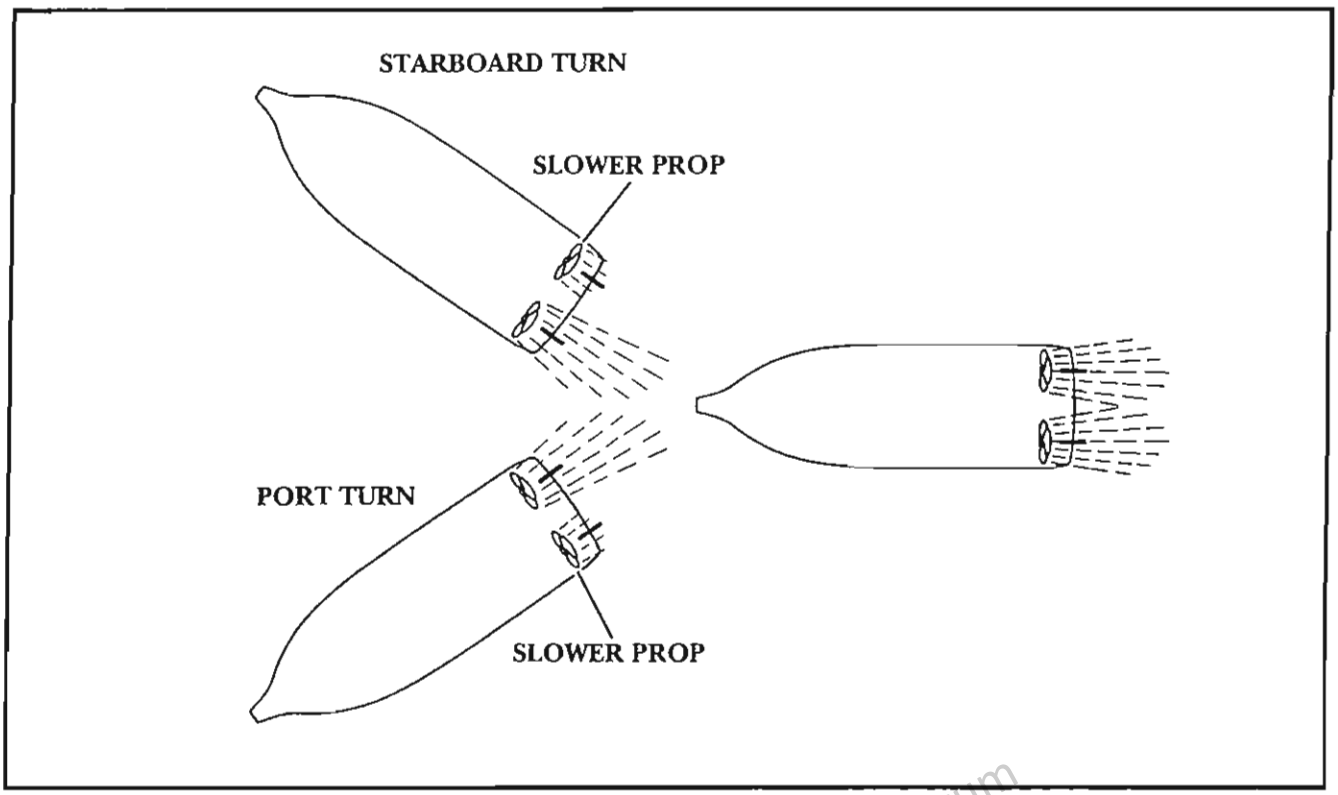
Downloaded from Cruisers Owners Forum
http://www.CruisersOwnersForum.com

GRADUAL TURNS AT LOW SPEED

WARNING

High speed, full range turns are not recommended. The quick response of the hydraulic steering system and the high speed may cause people and objects to be thrown around inside or even overboard. Exercise prudence in the way your boat is handled!

A gradual turn while moving at low speed, forward or reverse directions, is best accomplished by varying propeller speed. Straight line movement is maintained with the counterrotating propellers turning at the same speed. Increasing the speed of one prop and maintaining or reducing the speed of the other prop will turn the boat towards the slower prop.



⚠ *WARNING*

Rudders have little or no steering control at low speeds or when moving in reverse. This apparent "loss" of steering can cause confusion, even panic, among novice skippers. Practice maneuvering BEFORE you attempt any complex moves. Know your boat!

Remember when turning astern (in reverse), the bow will make a much wider arc than the stern. Be on the alert to avoid possible collisions in crowded areas.

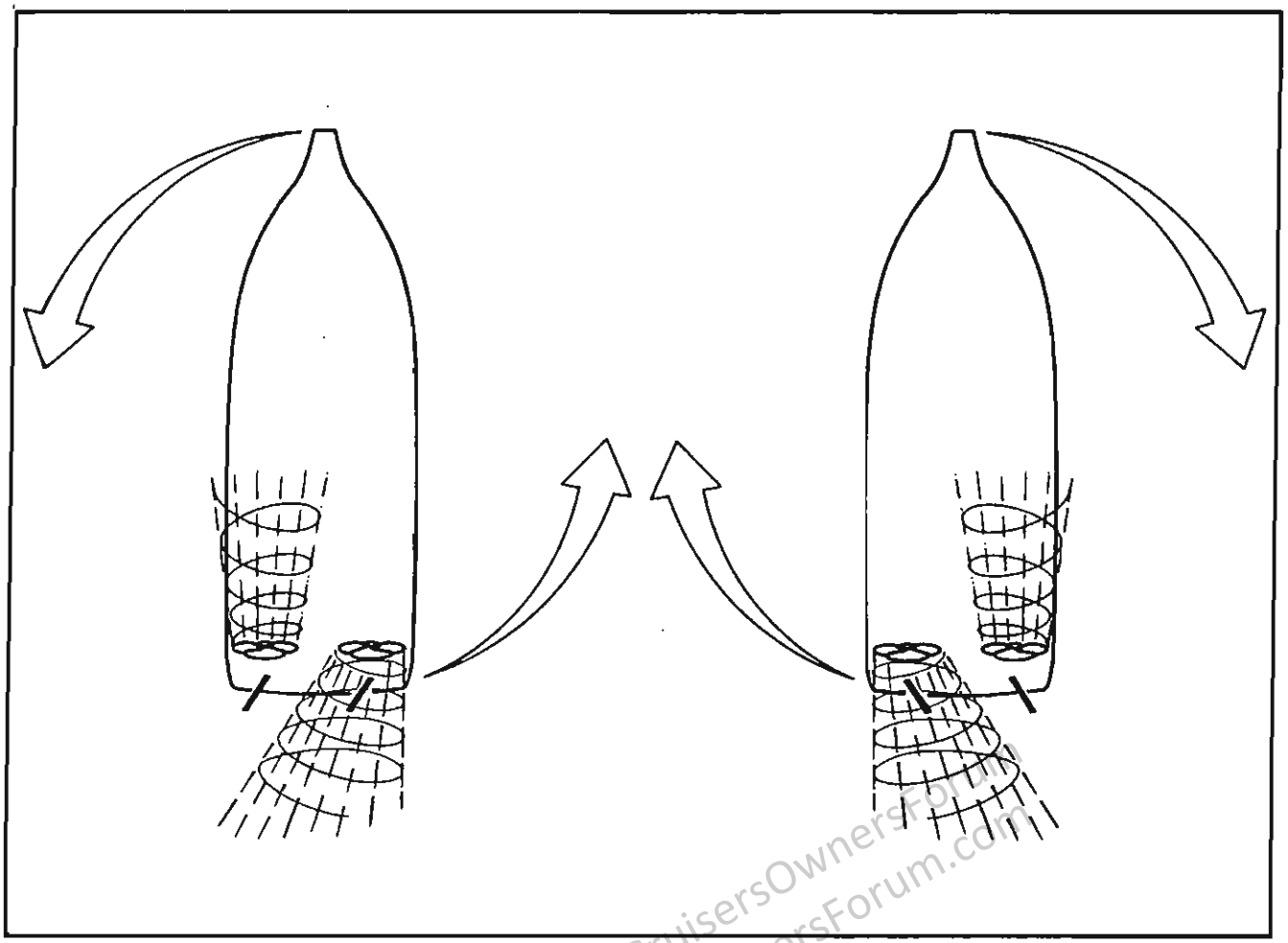
Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

HOLDING POSITION

⚠ *CAUTION*

Do not shift transmission at engine speeds above 1000 RPM. Damage to engines or power train could result. Momentarily pause in neutral and allow engine to return to idle speed before engaging transmission.

Using throttle and shift control levers to compensate for wind and water currents allows you to maintain a relatively still position in the water. Keep the bow pointed into the wind or current, if possible, by using the gradual turning procedure above. Slow and equal speeds on both props will allow you to maintain position with minor throttle adjustments for any correction. Compensate for slight wind and water current by individually adjusting throttle levers and moving shift levers between forward and neutral.



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

SHARP AND CLOSE QUARTERS TURNS

A sharp turn can be achieved by putting one shift lever in forward position and the other in reverse position. The rate of the turn can be controlled by the rudder as well as engine speed. Turning the steering wheel in the direction of the turn will increase the rate of turn.

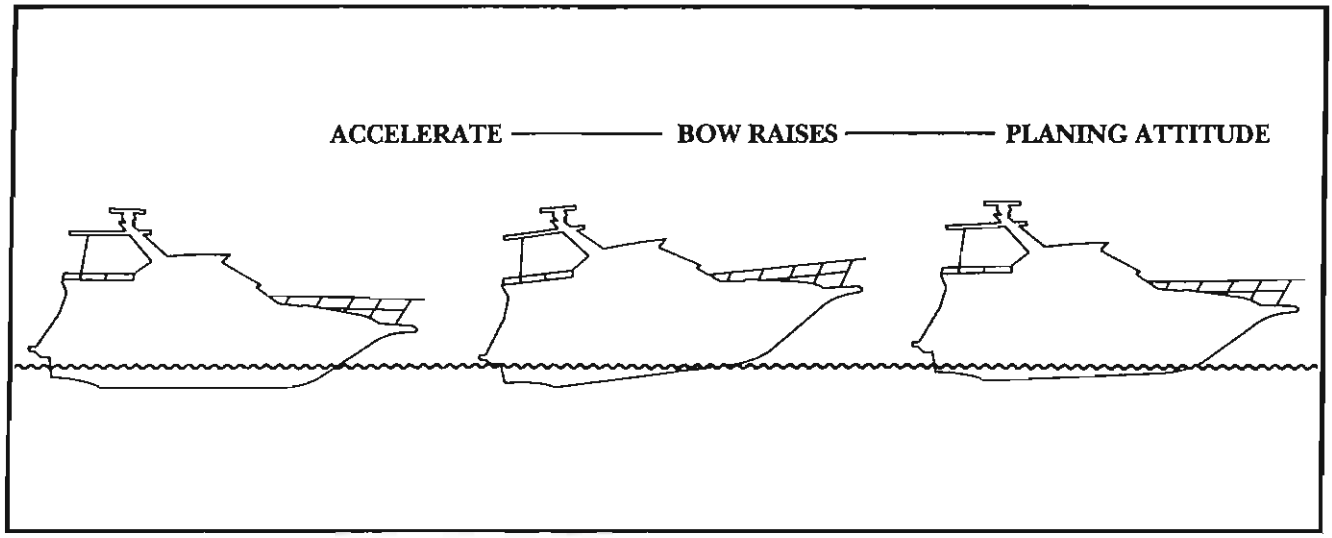
Close quarters or "on-a-dime" turns can be used to change direction in small areas.

From the hold position procedure, move the shift levers: one to reverse, the other to forward. To advance your position and quicken the turn, increase the speed on the forward prop. To move back from your position and quicken the turn, increase the speed on the reverse prop.

PROPELLER "BURSTS" AND STOPPING

Propeller burst is a maneuvering technique requiring fairly moderate speed (800-1000 RPM) and using shift controls only. Move shift lever of port or starboard engine to forward or reverse for short intervals to maneuver the boat into the desired position.

Stopping the boat's forward movement (checking headway) using propeller bursts will reduce the distance required to stop. With engine speeds equal, move both shift levers to reverse to slow or stop forward movement.



TRIMMING THE BOAT

When the boat is accelerated forward, its trim angle increases causing the bow to ride high and the stern low. Continued acceleration will bring the trim angle to a maximum angle ("hump"); then the boat will level out to its planing attitude.

It is important to get "over the hump" as soon as possible due to the reduced visibility, handling and performance. A few seconds at full throttle should get the boat over the hump and into a planing attitude. Once you are "over the hump" and at a comfortable plane, move throttle levers back to 2/3 to 3/4 throttle, a more fuel efficient cruising speed.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

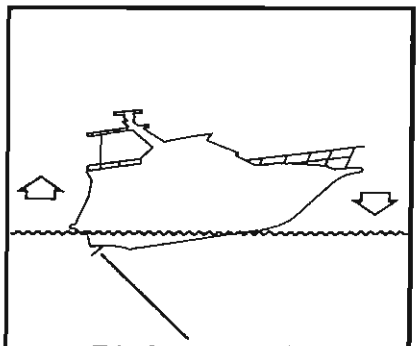
WARNING

Do not overtrim. The boat may veer or the bow may dig in causing you to loose control.

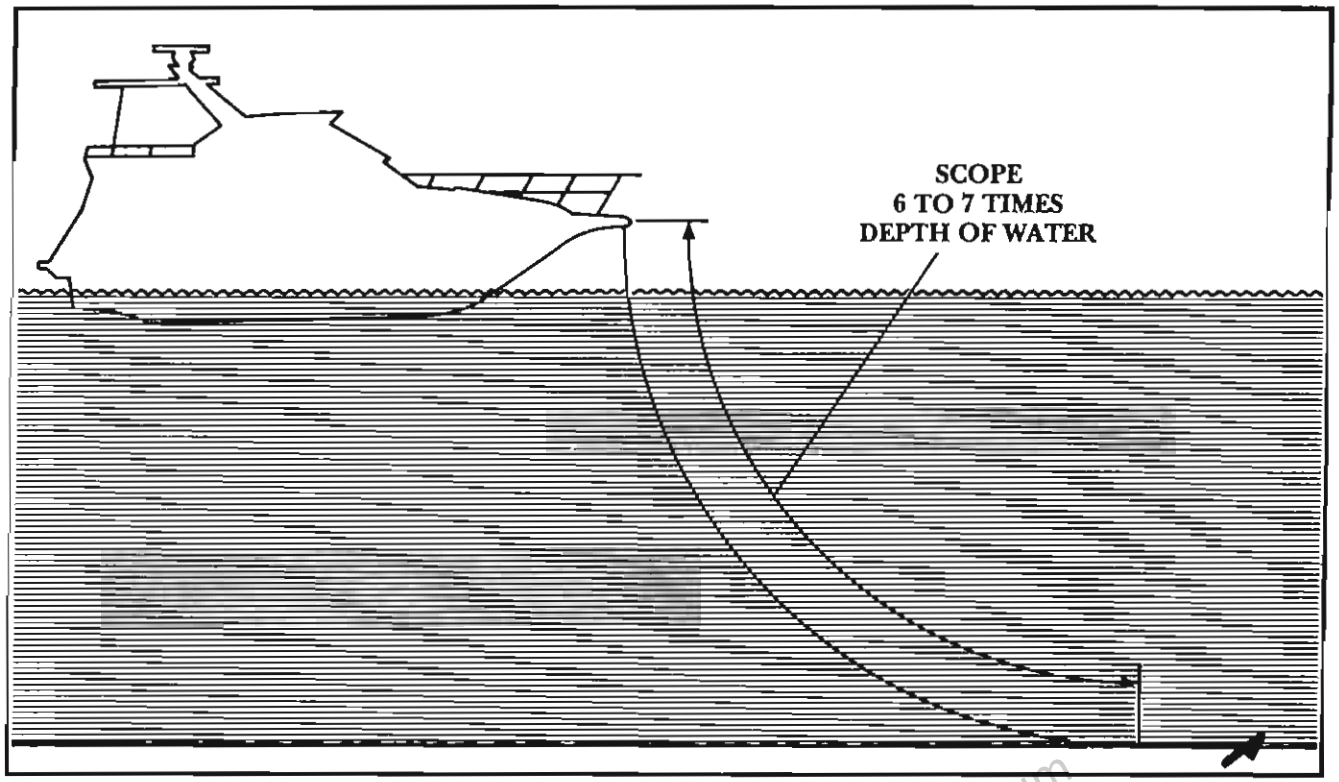
When accelerating to cruising speed, lower trim tabs to assist the boat up at the stern and into a planing attitude quickly. As water passes under the hull, it contacts the trim tabs forcing the stern up. Change the angle of the trim tabs to change the rate of lift; lower tabs result in faster lift.

Until you become familiar with trimming your boat, move the rocker switches in half-second intervals. The boat will not react immediately; it will take a few seconds.

Trim tabs can also be used to control uneven weight situations while underway. For a heavy stern, lower trim tabs equally until a comfortable angle is achieved. If the port or starboard is heavy, lower the trim tab on the heavy side to a point where the boat levels out.



TABS EXTENDED, WATER PASSES UNDER HULL, HITS TABS AND FORCES STERN UP AND BOW DOWN.



Dropping and Weighing Anchor

Maneuver the boat over the spot where the anchor is to be lowered, keeping in mind the wind, current, and scope (length of the anchor line). A good gauge for the amount of scope is a length 6 to 7 times the depth of the water anchored in. For example, you are in 10 feet of water, so use approximately 60 to 70 feet scope.

Have a crew member on the bow carefully lower the anchor. When the anchor is on the bottom, keep slight tension on the line. Maneuver the boat backwards slowly until the proper scope has been fed out. Fasten the line around the bow cleat. Anchor flukes should dig in and hold.

Watch for anchor drag by observing shoreline landmarks at the time the anchor is dropped and one-half hour later. If the reference marks have moved, the anchor is dragging and must be reset.

The end of the anchor line should be attached to a mooring cleat. When the line is coiled, it should be done neatly and each coil put around or on top of the previous coil so the line can be fed out smoothly when anchoring.

To weigh (pull in) anchor, it is recommended to have the engines running. Pull in the scope until the line is vertical. Pull hard to lift the anchor's shank and free the flukes from the bottom material.

If the anchor is stuck, attach the vertical, taut line to the bow cleat. Wave action on the bow may lift flukes from the bottom. If the anchor is still stuck, feed out a few feet of line and attach it to bow cleat. Maneuver the boat around the anchor, keeping the line tight. Find an angle that will pull the anchor loose.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

If your boat is equipped with a windlass, use the same procedures as above but refer to the manufacturer's instructions on the operation of the windlass. Always remember to relieve the load on the windlass when anchored; use a bridle attached to a cleat or attach the line directly to a cleat.

Towing the Boat

⚠ *CAUTION*

Do not use deck hardware for grounding and towing! The stress may be too much for cleats and mounting plates. Cleats are designed for mooring use only.

If you are aground, need a tow, or wish to tow another craft, use great care. The boat structure can be damaged by excessive pulling strain.

Use a double-braided nylon rope. Some synthetic fiber ropes stretch too much. Make a bridle for each craft (towing and towed) by putting a rope completely around the hull.

⚠ *WARNING*

Always stay clear of any tight or stretched lines.

If you run aground, depending on the situation, there are a few things you can do.

- Wait for the rising tide to lift you off.
- Shift weight and passengers to heel of the boat. Reverse the props to back-off.
- Use another boat to carry the anchor to deeper water. Operate the windlass to pull the boat free.
- If all efforts fail, get help from the Coast Guard.

IMPORTANT

You should always offer help to a craft in distress. However, towing a capsized boat, grounded boat or hull-damaged boat is dangerous. Give assistance to the occupants, then call the proper authorities.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Section 6 - Periodic Checks and Services

PERIODIC CHECKS AND SERVICES 6-2
Before Every Use 6-3
Every 50 Hours 6-7
Every 100 Hours 6-8
Monthly 6-9
Quarterly 6-10
Annually 6-11

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

PERIODIC CHECKS AND SERVICES

The checks and services outlined in this section are to be accomplished in conjunction with the periodic maintenance outlined in the various owner's manuals contained in the skipper's kit. It is extremely important that you read and understand the periodic maintenance tasks outlined in your owner's manuals (such as the engine owner's manual and the generator owner's manual), because those maintenance tasks are not repeated in this manual.

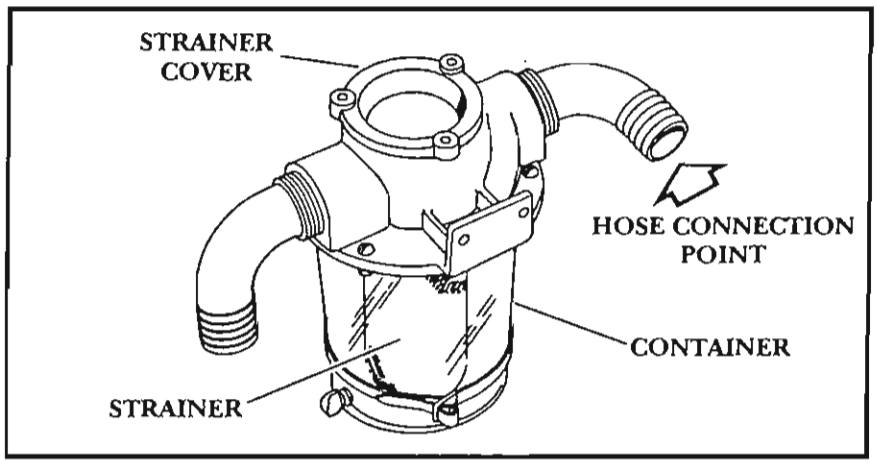
Use the table below to establish your maintenance routine. The pages which follow provide instructions on how to accomplish each of the required checks and services listed below.

FREQUENCY	TASK
Before Every Use	1. Check seawater strainers for leaks and accumulation of debris. 2. Check exhaust system for leaks. 3. Check seacocks for leaks. 4. Check propeller stuffing box for excessive water entry. 5. Check fuel system lines and connections for leaks. 6. Check battery charge.
Every 50 Hours	1. Clean seawater strainers. 2. Clean freshwater filter. 3. Inspect rudder tie bar. 4. Check rudder stuffing box for leaks. 5. Inspect propeller for damage.
Every 100 Hours	1. Inspect freshwater system for leaks. 2. Clean bilge.
Monthly	1. Lubricate air horn compressor. 2. Test GFCI outlet. 3. Check zincs.
Quarterly	1. Check battery electrolyte level. 2. Check hydraulic steering system oil level.
Annually	1. Check trim tab pump fluid level. 2. Check engine to shaft coupling alignment. 3. Lubricate rudder shaft. 4. Lubricate seacocks. 5. Check engine mounting hardware.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

Before Every Use

CHECK SEAWATER STRAINERS FOR LEAKS AND ACCUMULATION OF DEBRIS



1. Check the following strainers:

   Port and starboard engine cooling water strainers (Diesel or gas), located under salon hatches in engine compartment.

   Generator cooling water strainer, located under salon hatches in engine compartment.

   Air conditioning seawater strainer, located under salon floor hatch in engine compartment.

   Deck washdown strainer, located under salon floor hatch in engine compartment.

2. Inspect all hose connections to and from the strainers for leakage.

3. If hose is damaged or leaking, close the appropriate seacock to prevent any further entry of water, and then replace the damaged hose and clamps. See your authorized Cruistar dealer for parts and service.

4. Inspect container for build-up of debris which can clog the strainer and cause a system failure. If strainer needs to be cleaned, do the following:

   a. Close appropriate seacock.

   b. Remove strainer cover. Some covers can be removed by simply loosening a wing nut and swinging the cover to the side; others need to be unfastened using an allen tool.

   c. Lift strainer from container and use a stiff brush to clean. Rinse with clean water, and return to container.

   d. Fasten cover to container, and remember to open seacock before operating.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

CHECK EXHAUST SYSTEM FOR LEAKS

1. Start the engines following the normal start procedure.

2. Check hose connections from engines and generator for leakage.

3. If leakage is apparent, tighten hose clamps. If leakage persists, replace hoses and clamps. See your Cruistar dealer for parts and service.

CHECK SEACOCKS FOR LEAKS

1. Check the following seacocks:

   Port and starboard engine cooling water seacocks located in the engine compartment.

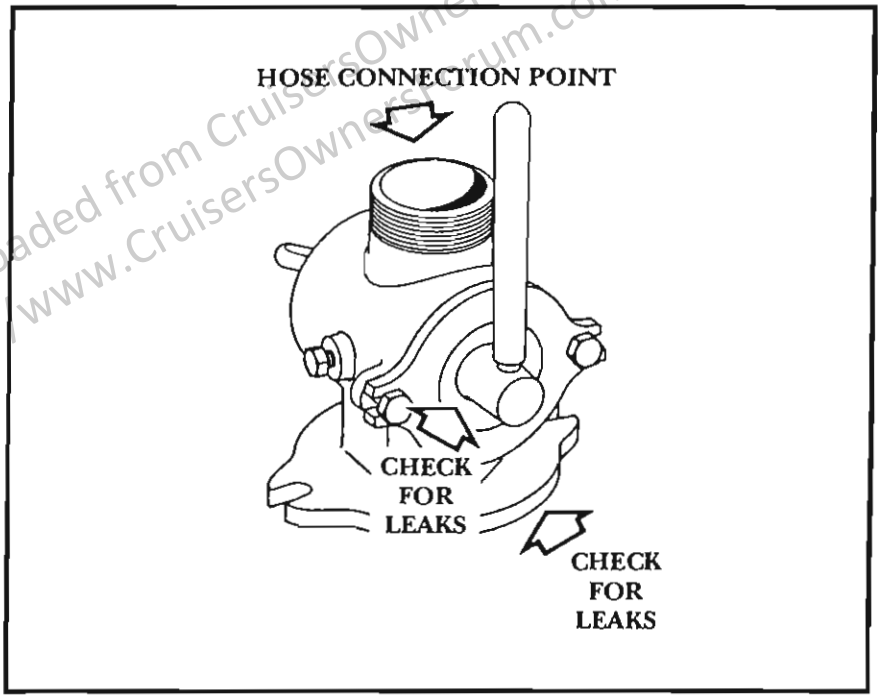
   Generator cooling water seacock located in the engine compartment.

   Air conditioning seacock located in the engine compartment.

   Head inlet water seacocks located under the aft and forward stateroom floor hatches. Head outlet water seacocks located in the engine compartment and under the forward stateroom floor hatch.

   Deck washdown seacock located in the engine compartment.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com



2. Inspect hose connections at seacock for leaks.

⚠ CAUTION

When replacing hoses, make sure that the appropriate seacocks are closed.

If hose is leaking, tighten hose clamp. If hose is damaged, replace the hose and clamps. See your Cruistar dealer for parts and service.

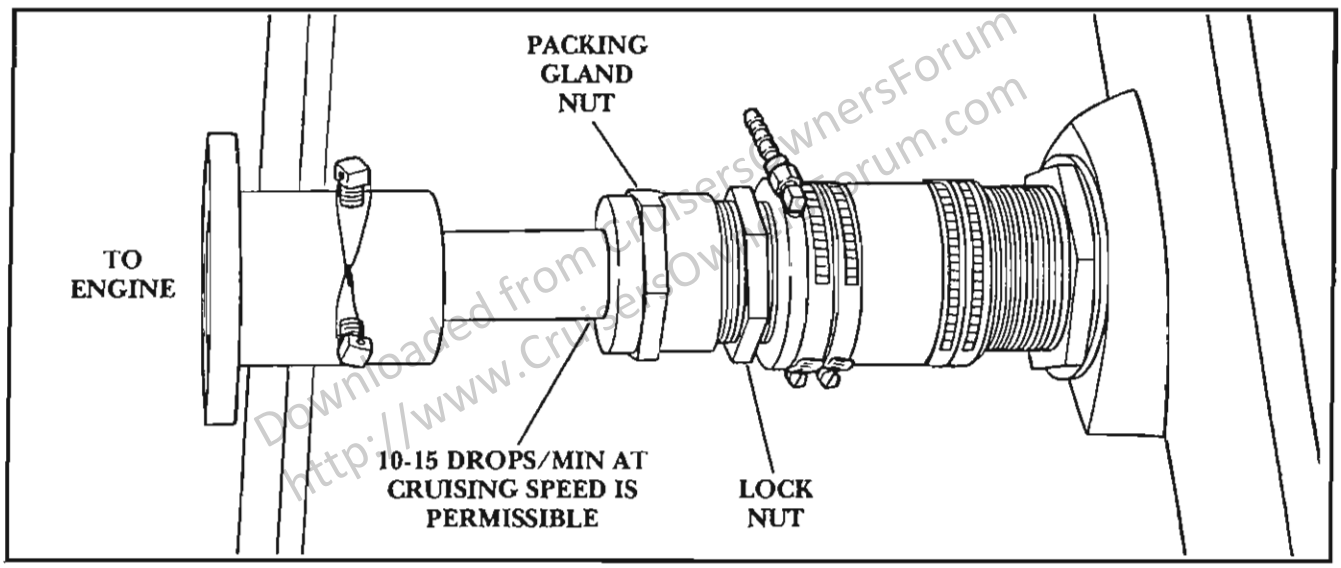
3. Inspect seacocks for signs of leakage at base and handle.

⚠ CAUTION

Seacocks can only be replaced when the boat is out of the water.

If leakage is apparent, take your boat to a Cruistar dealer for immediate service.

CHECK PROPELLER STUFFING BOX FOR EXCESSIVE WATER ENTRY



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

1. Operate boat at cruising speed.

2. Inspect propeller shaft at stuffing box. Ten to fifteen drops of water per minute is normal.

⚠ CAUTION

Cruistar Inc. will not warrant damage incurred due to an improperly adjusted or neglected packing nut. Excessive water entry could result in the submergence of the engine compartment.

3. If water entry is excessive, adjust packing gland nut.

⚠ CAUTION

Always hand tighten the packing nut. Tightening nut too tight will damage the packing material and the shaft, ultimately leading to system failure.

Back off lock nut. Hand tighten packing gland nut, and retighten lock nut.

4. Check the rubber coupling, it should be watertight. If leakage is apparent, tighten hose clamps. If hose is damaged, or the leak persists, refer the problem to your Cruisers dealer.

CHECK FUEL SYSTEM LINES AND CONNECTIONS FOR LEAKS

1. Check all lines and connections at the fuel tanks, and at the generator and engines.

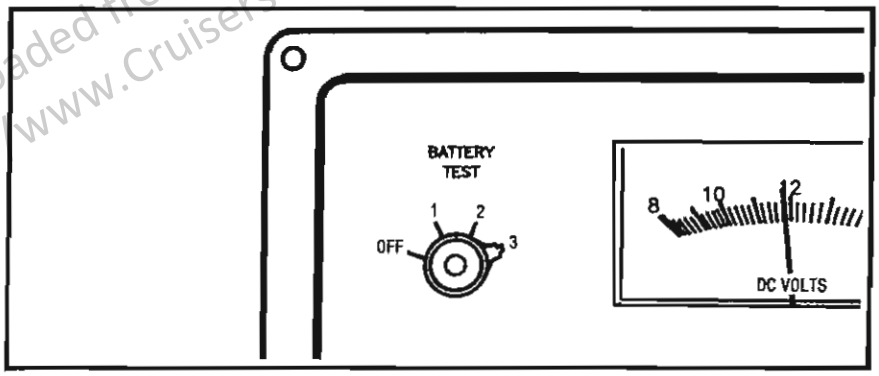
⚠ WARNING

DO NOT operate the engines when fuel leaks have been detected. All fuels are combustible and gasoline vapors are explosive. Repair any leak before starting the engines or the generator.

2. Tighten any connection that may be leaking. If problem persists, or fuel lines are damaged, refer the problem to your Cruistar dealer.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

CHECK BATTERY CHARGE



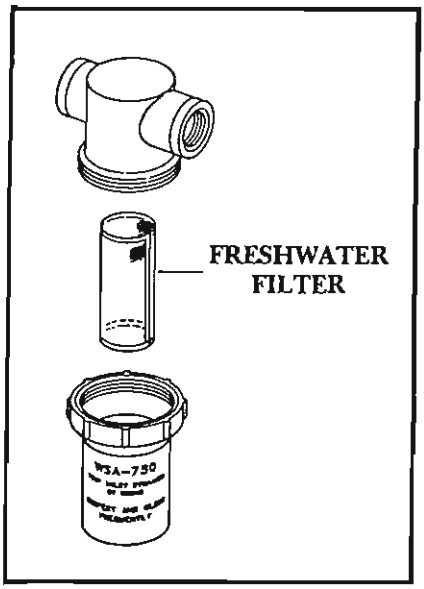
1. Turn on DC MAIN breaker.

2. Move the battery test switch to "1" to check the starboard engine cranking battery, and to "2" to check the port engine cranking battery.

3. Move the test switch to "3" to check on the auxiliary batteries.

4. When you have checked all the batteries, turn the test switch to the "OFF" position.

Every 50 Hours



CLEAN SEAWATER STRAINERS

Refer to "Check Strainers" in "Before Every Use."

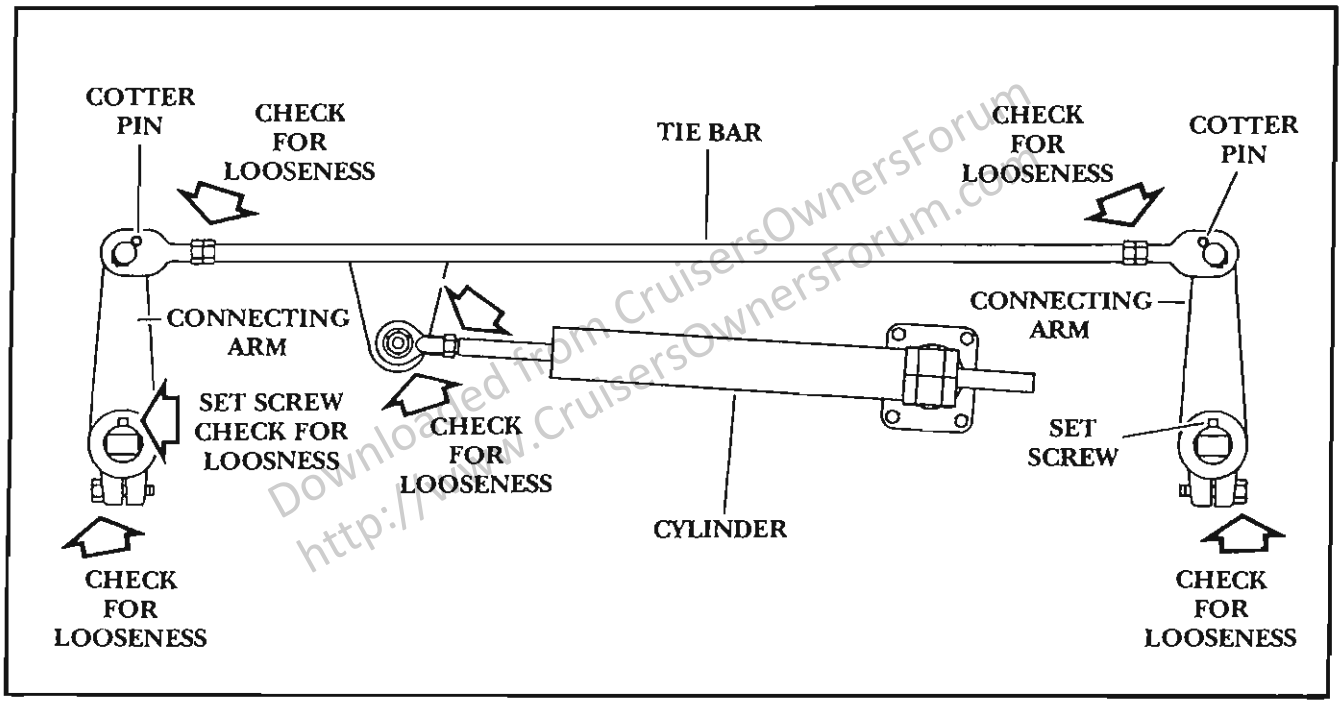
CLEAN FRESHWATER FILTER

IMPORTANT

Freshwater system must be completely drained before attempting to service filter.

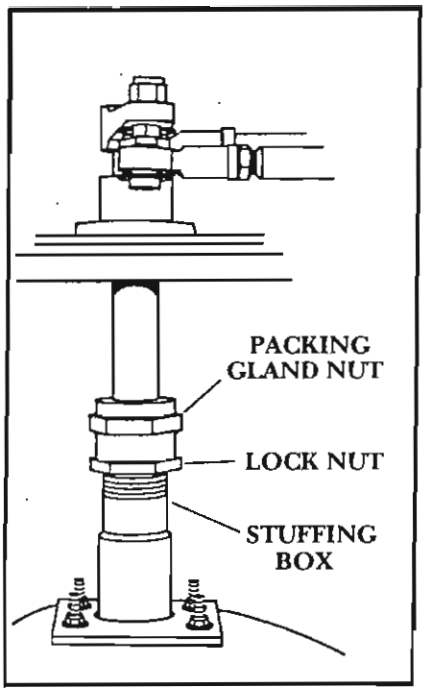
1. Grab filter housing at bottom and unscrew from cover.
2. Remove screen from housing and flush with clean water. Use a brush to remove any sediment.
3. Return screen to housing bottom, and reattach bottom to housing cover.

INSPECT RUDDER TIE BAR



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

1. Check tie bar at each end for loose hardware and damaged or missing cotter pins. Tighten and replace as needed.
2. Check cylinder where it attaches to tie bar for loose hardware. Tighten as needed.
3. Check connecting arm at rudder shaft for looseness. Tighten as needed.
4. Check rudder shaft setscrew for looseness or damage. Tighten or replace as needed.



CHECK RUDDER STUFFING BOX FOR LEAKS

1. Check rudder shaft at stuffing box for signs of leakage. Turn the steering wheel to actuate the rudder hydraulics. There should be no water entry.

2. If leakage is apparent, adjust the packing nut.

⚠ *CAUTION*

Cruisers Inc. will not warrant damage incurred due to an improperly adjusted or neglected packing nut. Excessive water entry could result in the submergence of the engine compartment.

Back off the locking nut.

Tighten the packing nut using only hand pressure. Tighten the locking nut to secure packing nut in place.

INSPECT PROPELLERS FOR DAMAGE

1. Check propellers for bends, cracks, and pitting.

2. Do not continue to use badly damaged propellers. Damaged propellers must be replaced. See Section 8 for details.

Every 100 Hours

INSPECT FRESHWATER SYSTEM FOR LEAKS

1. Fill and pressurize freshwater system.

2. Remove salon floor hatch to access the engine compartment.

3. Inspect connections at freshwater reservoir, filter, pump, and pressure accumulator. There should be no signs of leakage. If leaks are apparent, drain system and replace defective hoses, tubes, and clamps. See your Cruistar dealer for parts and service.

4. Inspect connections at hot water heater. There should be no signs of leakage. If leaks are apparent, drain system and replace defective hoses, tubes, and clamps. See your Cruistar dealer for parts and service.

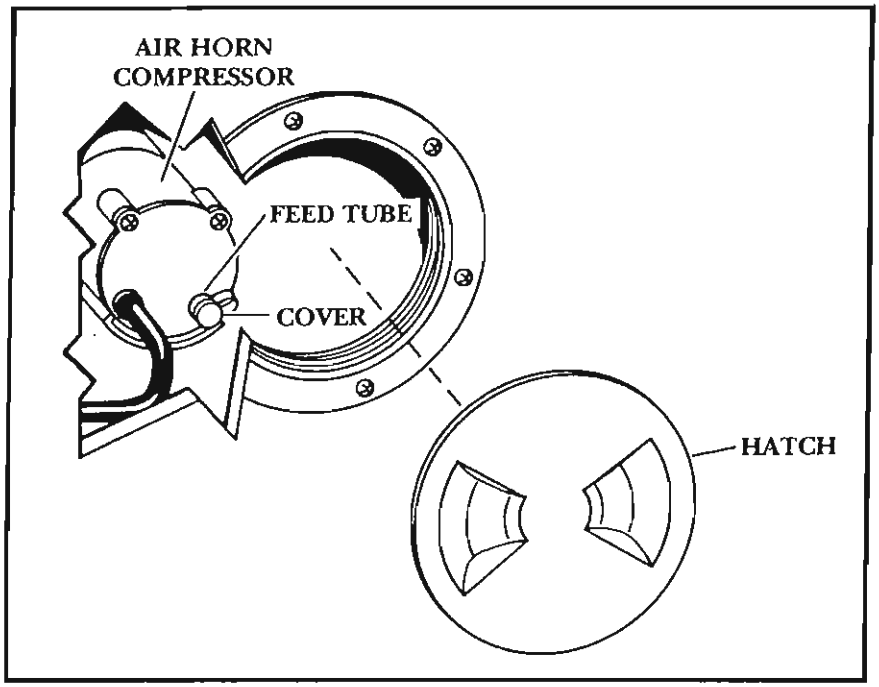
CLEAN BILGE

See Section 8, GENERAL MAINTENANCE for details.

Downloaded from CruiserOwnersForum.com
http://www.CruiserOwnersForum.com

Monthly

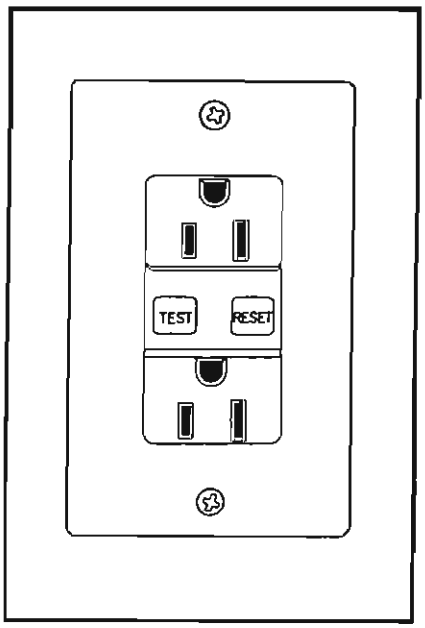
LUBRICATE AIR HORN COMPRESSOR



1. Locate hatch under fwd bridge seats, it is located directly across from the bridge entertainment center.
2. Open hatch and locate the compressor's oil feed tube.
3. Remove feed tube cover, and add 4 to 7 drops of oil.

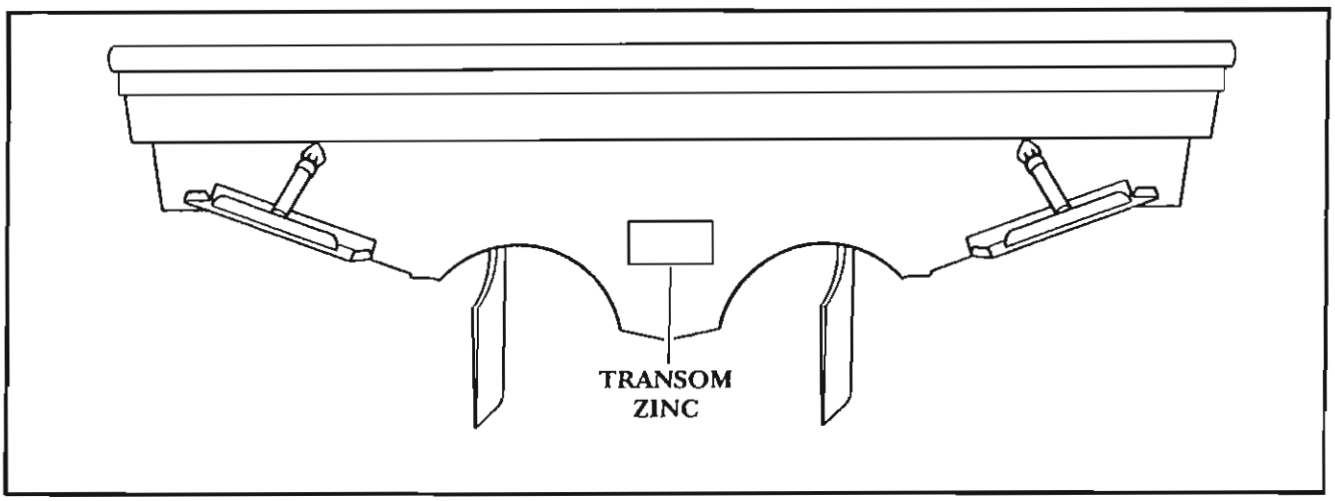
TEST GFCI OUTLET

1. Provide AC to the boat with either a shore power hook-up, or the onboard generator.
2. Turn on the OUTLETS FWD, OUTLETS AFT and the two OUTLETS breakers located on the AC master panel.
3. Locate the GFCI outlets throughout the boat.
4. Push the test button on each GFCI outlet. Power should be interrupted to all outlets onboard. Press the reset button to restore power.
5. If power is not interrupted, do not use any of the outlets. Have a qualified electrician make the necessary repairs.



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

CHECK ZINCS



CAUTION

Failure to maintain the zincs on your boat will result in electrolytic corrosion to all submerged metal.

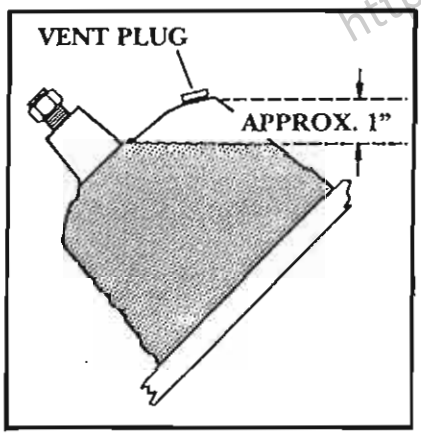
1. Check factory installed transom zinc for excessive corrosion. Replace as needed.
2. Check dealer installed zincs for excessive corrosion. Your dealer will point out their locations at time of delivery. Keep this outline in your Skipper Kit.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Quarterly

CHECK BATTERY ELECTROLYTE LEVEL

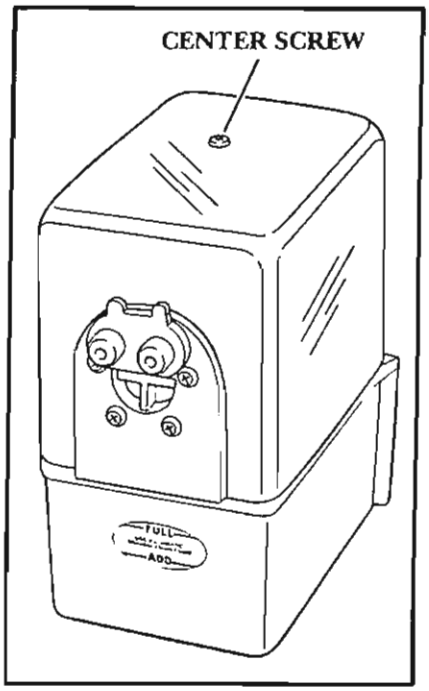
See Section 8, GENERAL MAINTENANCE for details.



CHECK HYDRAULIC STEERING SYSTEM OIL LEVEL

1. Remove vent plug from fill hole on helm pump.
2. Visually inspect oil level. Recommended oil level is approximately 1" from top of fill hole.
3. If oil needs to be added, refer to your hydraulic steering owner's manual for filling and bleeding instructions. Use grade of oil recommended by manufacturer.

Annually

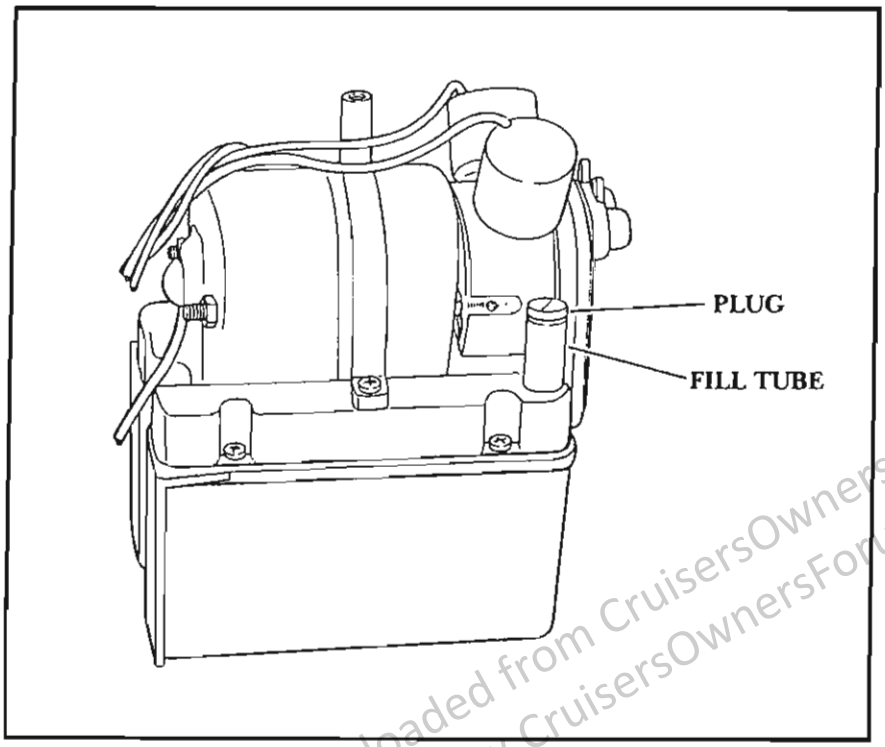


CHECK TRIM TAB PUMP FLUID LEVEL

1. A fluid level line has been added to the oil reservoir of the trim tab pump. The oil level is visible through the translucent sides of the reservoir.

2. If oil is low, replenish in the following manner:

   Remove plastic cover by unscrewing center screw.



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

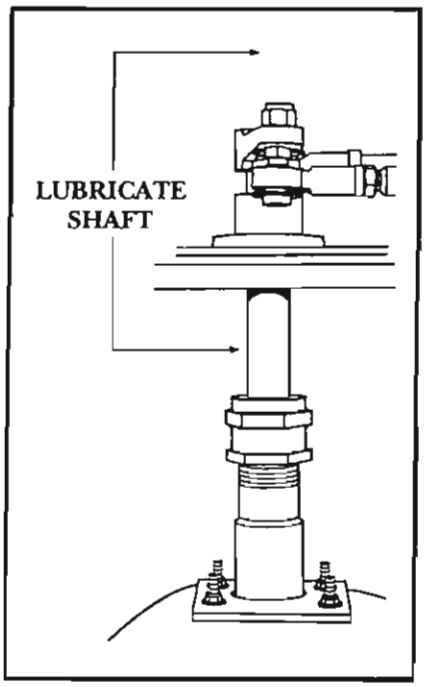
   Remove plug from fill tube, and use a funnel with a tube to add lubricating oil. Fill only until oil reaches the full line indicated on the reservoir.

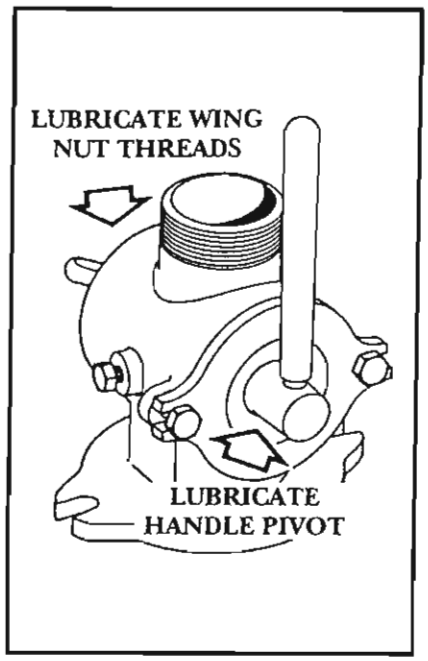
CHECK ENGINE TO SHAFT COUPLING ALIGNMENT

   See Section 8, GENERAL MAINTENANCE for details.

LUBRICATE RUDDER SHAFT

   Lubricate with a waterproof marine grease.





LUBRICATE SEACOCKS

1. Lubricate the following seacocks:

   Port and starboard engine cooling water seacocks located in the engine compartment.

   Generator cooling water seacock located in the engine compartment.

   Air conditioning seacock located in the engine compartment.

   Head inlet water seacocks located under the aft and forward stateroom floor hatches. Head outlet water seacocks located in the engine compartment and under the forward stateroom floor hatch.

   Deck washdown seacock located in the engine compartment.

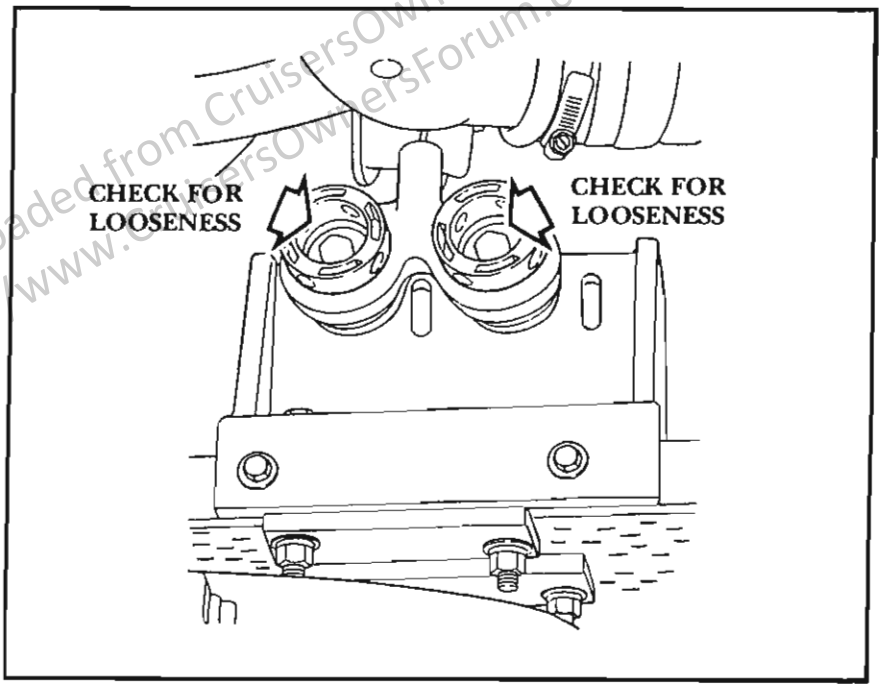
2. Use lubricating oil and lubricate the wing screw threads, and the valve handle at its pivot point.

CHECK ENGINE MOUNTING HARDWARE

1. Check engine mounting hardware for looseness.

2. If mounting is loose, temporarily tighten, and then have an engine and propeller shaft alignment done as soon as possible.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com



Section 7 - Storage for Extended Lay-Up

STORAGE FOR EXTENDED LAY-UP **7-2**
Lifting and Storing Your Boat 7-2
Transporting 7-3
Winterization 7-4
Fitting Out After Storage 7-8

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

STORAGE FOR EXTENDED LAY-UP

Lifting and Storing Your Boat

CAUTION

Never lift a boat with a large amount of water in the bilge! Undue stress will be put on the hull.

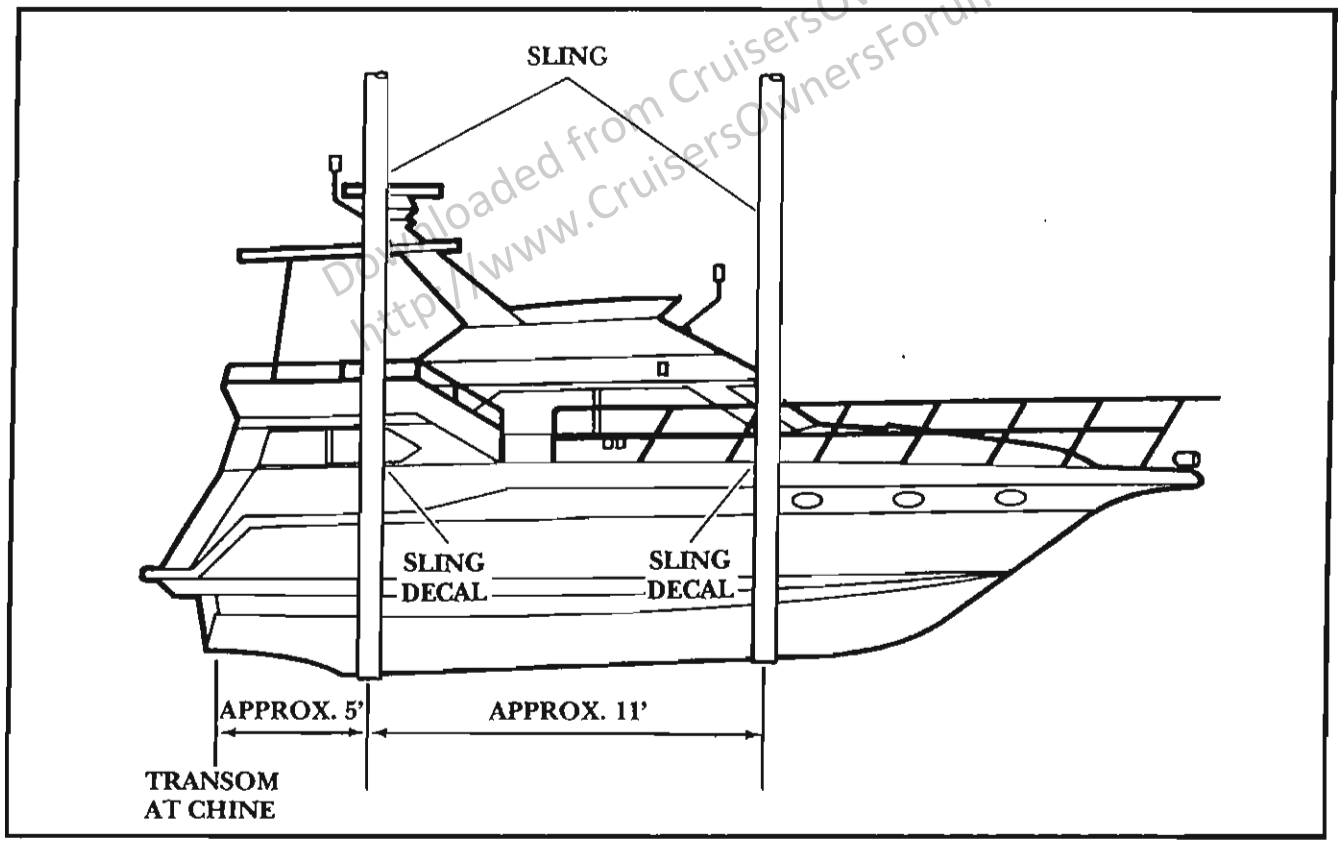
Slings must never contact or exert a force on shafts, struts or hardware protruding from the hull. This type of stress can damage fiberglass, bend or misalign parts, which is not covered under the warranty.

Use two web slings and 15 foot spreader bars to lift the boat. Slings must have a minimum width of six inches and a capacity rating high enough to support the boat. Spreader bars reduce the side pressure at the boat's sheer line and prevent distortion or damage to the deck or gunwale molding.

Put slings around the hull at positions marked "SLING". The sling decal is located just under the gunwale molding. Make sure the sling contacts the bottom of the hull for the entire length with no twists in the sling.

When lifting the boat, keep the bow slightly higher than the stern to keep water from running into engine manifold. Water can cause corrosion or damage to the engine.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com



⚠ *CAUTION*

When your boat is out of the water, it is important to support the hull correctly to avoid any hull damage.

The shipping/storage-cradle will provide the proper support at the recommended positions. The load at the cradle support areas is less than 10 pounds per square inch. Make sure the cradle is level and completely supported on the ground to eliminate any cradle or hull distortion. Contact your Cruistar Inc. dealer to order a cradle.

If a factory-supplied cradle is not available, extreme care should be used to support the hull as shown above. Do not support boat by resting hull on keel; the load will be more than 10 pounds per square inch! Vertical supports must extend from chine to keel to chine with no gaps between the hull and cradle supports. Protect all items extending from the hull from resting on the support or ground. DO NOT apply any load stress to props, shafts, rudders, struts, etc.

Transporting

The boat must be supported on a trailer with the same care and concern as on the ground. Cover the boat to prevent additional load being added from rain or snow. Contact your dealer for assistance in transporting your craft.

Transporting Checklist

- Check all federal, state and local regulations and requirements to transport your boat. Arrange for any permits and escorts as required.
- Disconnect and remove batteries to prevent accidental sparks and spilled electrolyte.
- Empty fuel tanks to prevent fuel fumes, spilling and possible fire.
- Empty freshwater system to reduce transportation weight.
- Remove all items from cabinets, pockets and drawers to eliminate damage.
- Secure all drawers, cushions, doors, etc. to prevent any cabin damage from items moving around during transport.
- Secure hatches, windows, doors and canvas to prevent damage from wind and accidental opening.
- Cover and tie the boat down securely to avoid any shifting, tipping or sliding during transport.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Winterization

⚠ CAUTION

If improperly stored, the boat could take on water which can accumulate and cause damage to on-board systems.

If your boat is to be stored on shore, a thorough winterizing procedure will extend the life of your boat and its equipment. Utilize the following suggestions to make boat prep for the next boating season a little easier.

a. Clean the hull and deck as soon as the boat is pulled from the water. This will make cleaning easier because the marine growth will still be wet. (See the Care and Cleaning section in this manual.)

b. Store the boat with the bow up so any accumulation of moisture will run off.

c. Inspect the hull and underwater gear for signs of deterioration, wear or damage. Note any damages to engine, cabin equipment, helm area, etc. that has occurred during the past boating season. Try to have any repairs made before covering the craft.

d. Fuel System:

IMPORTANT

Do not fill the tanks so fuel flows from the vents. Allow room in the tanks for expansion.

1. Fuel tanks should be filled with treated fuel to prevent condensation. Use the following products per instructions on container.
   Gasoline- use a stabilizer and conditioner, such as "STA-BIL".
   Diesel- use a biocide, such as "BIOBOR" and conditioner, such as "RAYCOR RX 100".

2. Run engines for ten minutes to make sure treated fuel is present in all lines and parts of the engines.

3. Operate any other engines, such as the generator which uses the same fuel source, until treated fuel is through the engine.

e. Engines:

1. Flush engines with clean fresh water.

2. Refer to the engine owner's manual for procedures to store and winterize the engines.

f. Generator Engine:

1. Flush engine with clean fresh water.

2. Refer to the engine owner's manual for procedures to store and winterize the engine.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

g. Remove the drain plug at the bottom of all exhaust mufflers to prevent freeze damage. (This includes the generator muffler.) Store plugs in a safe place.

h. Head and Holding Tank:

1. Empty and rinse holding tank with water until tank is clean.

2. Close head intake seacock and remove hose from seacock.

⚠ *WARNING*

DO NOT use automotive type radiator antifreeze under any circumstances! It is poisonous. See your marine or recreational dealer for non-toxic antifreeze.

3. Put hose into a bucket of non-toxic antifreeze. Keep flushing the head until antifreeze reaches the holding tank.

4. If equipped with macerator discharge and the boat is removed from the water, operate macerator pump just long enough so antifreeze runs through pump and lines.

5. Remove drain plug from seacock while seacock is closed. Allow line to drain. Replace drain plug.

i. Air Conditioning System:

1. Open intake seacock. Loosen screws on the seawater pump head to allow water to drain from pump.

2. Disconnect intake and both unit supply hoses.

3. Flush units and lines to strainer and seacock with clean water.

4. Blow water out of lines with low air pressure.

5. Disconnect hoses from both condensing units.

6. Close air conditioning intake seacock.

7. Remove drain plugs from seacock and strainer. Allow to drain and replace drain plugs.

j. Deck Wash System:

1. Close intake seacock and remove intake hose.

2. Put hose in a bucket of non-toxic antifreeze. Operate system until antifreeze solution is discharged from system.

3. Turn system off and relieve pressure in hose, if connected.

4. Remove drain plug from deck wash seacock. Allow to drain and replace drain plug.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

k. Freshwater System:

1. Turn the water heater circuit breaker to OFF.

2. Remove the freshwater supply by opening the hot and cold faucets in the galley for 10 minute intervals. Repeat the procedure until the freshwater tank is empty.

3. Turn the freshwater pump circuit breaker to OFF.

4. Open *all* faucets on board -galley, heads, showers, vanities, bar, cockpit shower, etc.

5. Disconnect inlet and outlet hoses from freshwater pump. Make sure accumulator tank is drained.

6. Remove freshwater filter bowl and strainer. Clean, dry and replace strainer and bowl.

7. Drain the water heater. Lines from the engine heat exchanger must be disconnected. Drain exchanger and lines.

8. Use low air pressure at freshwater pump outlet hose to blow water from all water lines.

9. Connect outlet hose to freshwater pump. Pour approximately 1-1/2 ounce of potable alcohol into the pump inlet. Rotate pump pulley two turns by hand and connect inlet hose.

l. Ice Maker and Refrigerator/Freezers:

1. Allow the ice maker to operate approximately 1-2 hours after the freshwater system has been winterized. This will allow any water in the system to be used up.

2. When the unit no longer makes ice, turn the circuit breakers for the ice maker and refrigerator/freezer to OFF. Discard any ice cubes.

3. Block the door open and allow the ice in the unit to melt.

4. Wipe unit dry and leave the doors blocked open during storage.

m. Shower Sump and Sink Drains:

1. Turn shower sump circuit breaker to ON.

2. Pour non-toxic antifreeze in the shower drain until the pump discharges the antifreeze overboard.

3. Turn circuit breaker to OFF.

4. Pour non-toxic antifreeze in all sink drains until the antifreeze is discharged overboard.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

n. Remove strainer and seacock drain plugs to prevent damage from freezing. Close all seacocks.

Strainers	*Seacocks*
Engines (2 available on gas)	Engines (2 -intake)
Generator	Generator (intake)
Freshwater system	Deck wash
Deck wash system	Air conditioning (intake)
Air conditioning system	Head system (2 -intake)
	Head system (2 -Y-valve overboard discharge)
	Head system (macerator pumpout)

o. Batteries:

1. Put DC main circuit breakers in OFF position. Remove batteries from the boat and store in a non-freezing area.

2. Put batteries on a wooden pallet or bench.

3. Keep batteries on a trickle charge. Check and maintain electrolyte levels regularly.

p. In areas where temperatures are below freezing, bilge must be pumped out and sponged completely dry. Check for areas that do not drain completely to the pump. There are no hull drain plugs.

q. Interior Preparations:

1. Remove items that will hold moisture and cause mildew such as life jackets, towels, blankets, cushions, mattresses, clothing, curtains, canvas, etc.

2. Scrub the inside of the boat. Clean the cabinets, drawers, and cupboards. Try to allow one day for drying and airing out the cabin area, as weather permits.

3. If mattresses and cushions are left onboard, stand or prop them up to allow good air circulation around them. Hang life preservers and other equipment also, to avoid mold and mildew.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

r. Exterior Preparations:

1. The bottom will require at least one coat of anti-fouling paint before beginning a new season. This can be done when winterizing or at the start of the new season. Consult your Cruisers Inc. dealer for paint specifications for your area.

2. Apply a coat of wax to the entire surface of the boat. Put rust inhibitor on all deck hardware and other metal parts. Consult your Cruisers Inc. dealer for product recommendations.

NOTE

If possible, do not seal cabin or cockpit tightly. Dry, fresh air will ventilate these areas preventing mold and mildew.

s. Cover your boat with a tarpaulin or mooring cover. If the boat is stored outside, additional supports under the tarp or cover may be necessary to prevent pockets that will collect snow or rain. This can add extra load to the hull and cradle; also stress the cover, possibly tearing it.

Fitting Out After Storage

A thorough check of your boat after an extended storage period for any type of damage is necessary. Look for items such as cracks or breaks due to freezing, fiberglass stress cracks in hull or deck, fuel or water leaks in seals or seams. The following steps will assist you in getting your boat back into the water.

a. If anti-fouling paint and wax was not applied before your boat was stored, apply them now.

b. Inspect all through-hull fittings and stuffing boxes (shafts and rudders) for tightness and possible leakage. Do not overtighten.

c. Inspect the entire fuel system for leaks or deterioration. Replace parts as necessary.

d. Open and close all seacocks to check operation. Install all drain plugs in strainers and seacocks.

e. Check all hoses and fittings for cracking, splitting or deterioration. Replace defective parts immediately.

f. Batteries:

1. Make sure batteries are fully charged and the electrolyte level is approximately 1/2 inch above the internal plates.

2. Clean battery posts and cables. Use a solution of baking soda and water to clean battery cases.

3. Install batteries and connect battery cables. Apply a small amount of grease or petroleum jelly to cover the posts and cable clamps.

4. Turn DC main circuit breaker to ON position.

g. Install drain plugs in bottom of all mufflers. Inspect exhaust system from engine to hull outlet. Make sure hoses, mufflers, fittings and clamps are water and exhaust tight.

h. Connect all hoses that were disconnected for winter storage.

i. Freshwater System:

1. Close all faucets onboard.

2. Fill freshwater tank with approximately 20 gallons of pure drinking water. Turn freshwater pump circuit breaker to ON.

3. Open hot and cold faucets in galley slightly to allow air to escape and fill water heater. Close the faucets when a steady flow of water is present.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

4. Bleed air from all remaining faucets as in step 3.

5. The pump will run until operating pressure is reached and will then shut off. Continue to fill freshwater tank to its capacity.

j. Refer to engine owner's manual for procedures to put engines into service after an extended storage.

k. Refer to generator owner's manual for procedures to put generator back into service.

l. Put miscellaneous equipment such as mattresses, cushions, curtains, life jackets, etc. onboard.

m. Make sure all seacocks are closed and launch boat.

⚠ *CAUTION*

Remain with the boat for a minimum of 8 hours after launching the boat. This will allow time to check hull for any leaks and correct the problem before the boat is swamped.

n. After boat has been launched, engine-to-shaft alignment must be checked. Refer to Section 8, GENERAL MAINTENANCE for this procedure.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Section 8 - General Maintenance

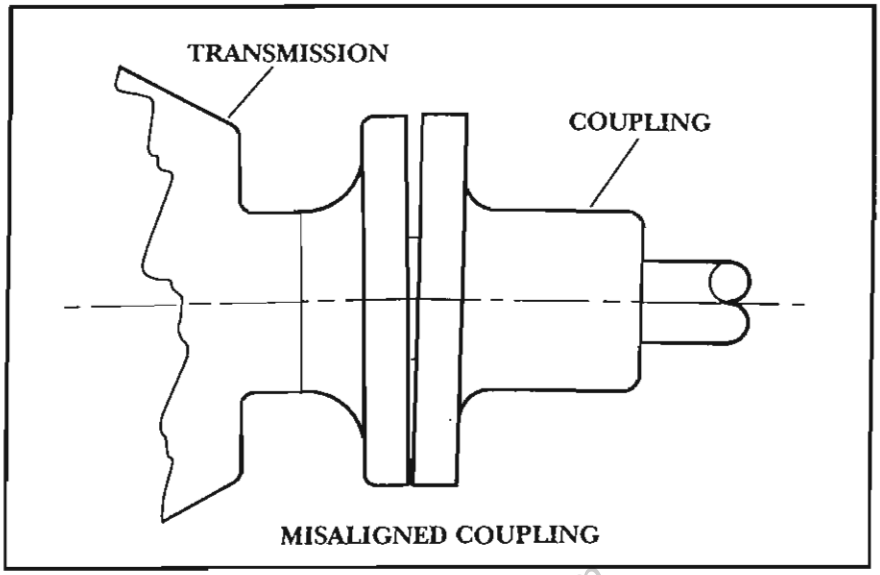
GENERAL MAINTENANCE **8-2**
Power Train 8-2
DC Electrical System 8-5
Freshwater System 8-5
Bilge 8-6
Hull 8-6
General Care and Cleaning 8-7

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

GENERAL MAINTENANCE

Power Train

COUPLING ALIGNMENT



MISALIGNED COUPLING

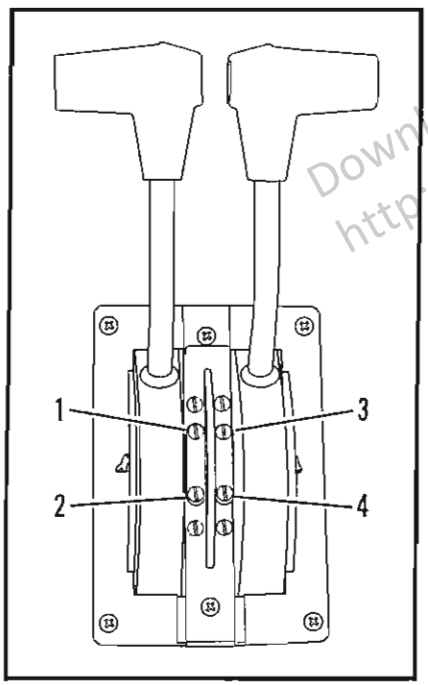
Slight coupling misalignment can cause vibrations, loss of power, and damage to crankshaft bearings. Check coupling alignment using the following procedure:

1. Remove the coupling bolts and slide the coupling apart only slightly.

2. With a feeler gauge, measure the gap between the coupling halves at four places 90° apart. The difference in the readings must not exceed 0.003 inches.

3. Using the adjustable engine mounts, adjust engine until coupling is in alignment. (See your Cruistar Incorporated dealer.)

4. Leave coupling half on transmission stationary and rotate the propeller shaft 1 turn, in 90° intervals. At each 90° interval, check the clearance between the coupling halves. If the four measurements differ by more than 0.003 inches, the propeller shaft may be bent.



FRICTION ADJUSTMENT FOR THROTTLE LEVERS

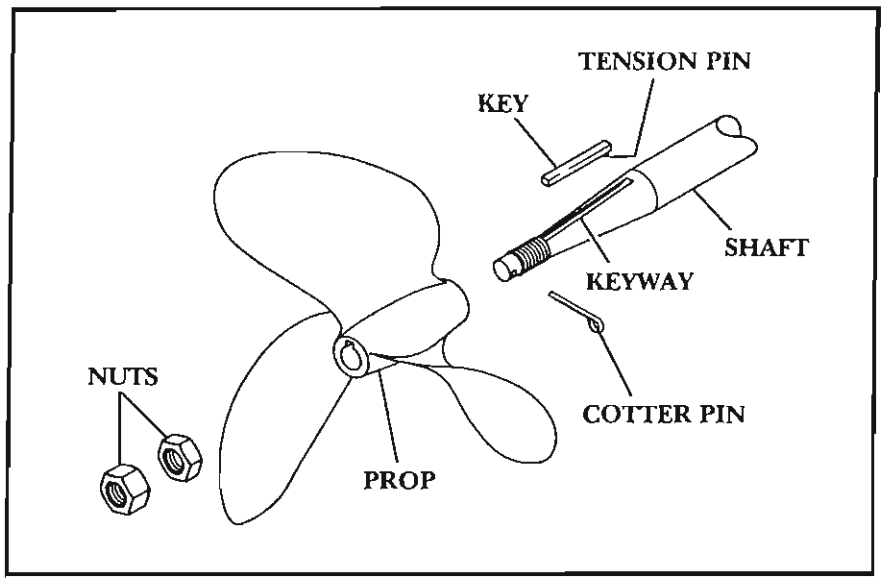
1. Remove screws holding cover to throttle lever assembly, and lift cover to expose adjustment screws.

2. To increase friction, tighten screws (1 and 2) for the port throttle lever, and screws (3 and 4) for starboard throttle lever.

3. To decrease friction, loosen screws (1 and 2) for the port throttle lever, and screws (3 and 4) for starboard throttle lever.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

PROPELLER REPLACEMENT



The following steps represent a typical propeller installation procedure. Refer to the propeller manufacturer's recommended procedure if different.

1. Remove any small burrs on tapered end of propeller shaft using a honing stone.

2. Apply a thin layer of "prussian blue" on the tapered section of the shaft.

3. Slide the prop on the shaft and rotate it slightly on the shaft. Remove the prop.

4. Where the prop contacts the shaft the blueing will be gone. About 60% contact is required between the prop and the shaft. If sufficient contact area is obtained, go to step 7.

5. If the contact area is small, apply a course valve grinding compound to the taper of the shaft. Install the prop and rotate it on the shaft clockwise and counterclockwise about 100 times.

6. Remove the prop and clean the grinding compound from the shaft and prop. Repeat steps 2 to 4.

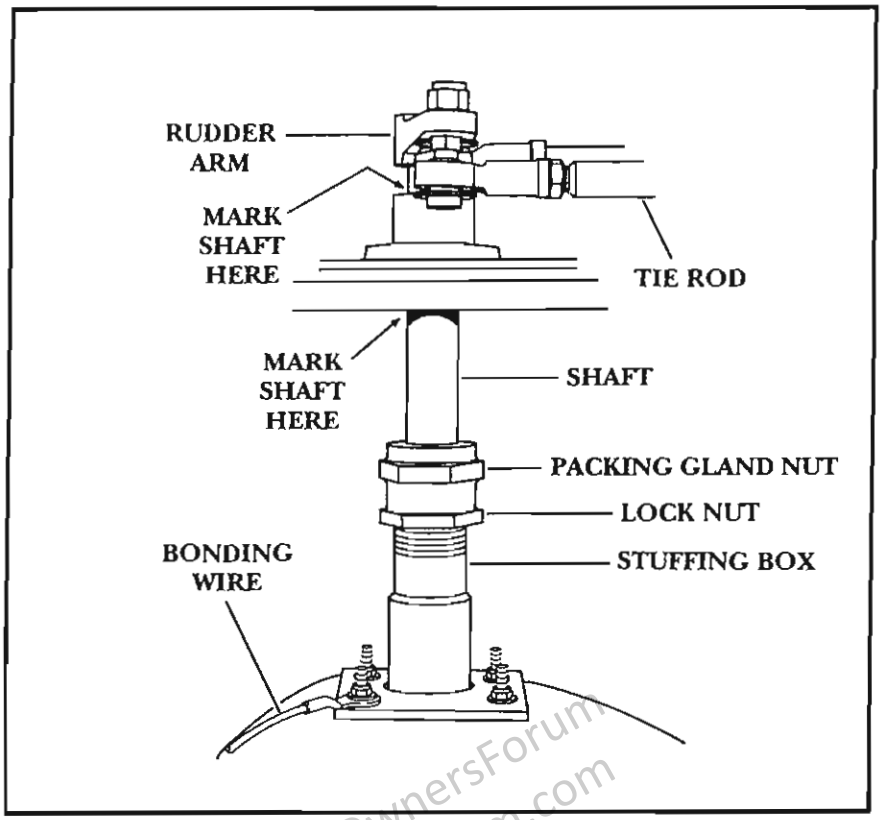
7. Apply a light layer of waterproof grease to taper area of shaft.

8. Install the key and prop on the shaft. The key should fit tight from side to side. There should be a slight clearance between the top of the key and the groove in the prop. If there is no clearance, the prop can be forced off center causing vibration.

9. Drive the prop all the way up the shaft by installing and tightening the large nut.

10. Install the small nut. Hold the large nut while tightening the small nut to lock the nuts in place. Install the cotter pin and bend the ends over to hold it in place.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com



Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

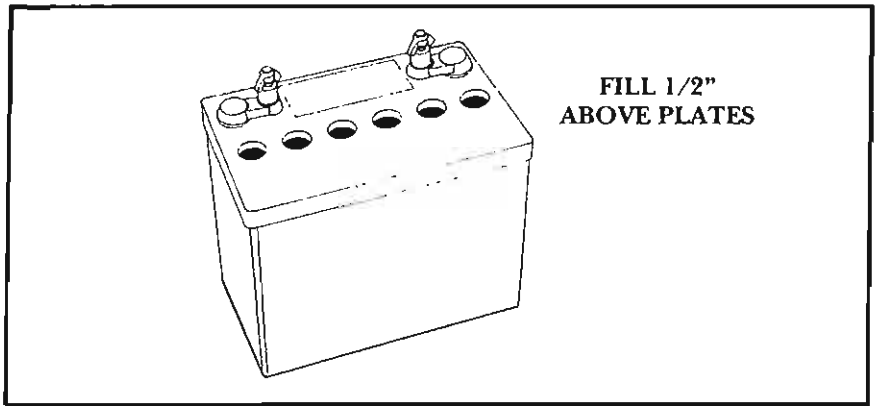
With the boat out of the water, the following procedure can be used to replace a rudder:

1. Disconnect bonding wires.
2. Mark shaft for vertical position.
3. Have a second person outside the boat remove the rudder as the hardware is loosened.
4. Transfer marks for vertical position to new rudder shaft.
5. Loosen the hardware to remove rudder arm from the rudder shaft. Lower the rudder from the boat. The packing nut may have to be loosened to remove the rudder.
6. Remove the packing nut, ring and old packing.
7. Install a new rudder and hold it in place while new packing, packing ring and nut are installed.
8. Install rudder arm. Adjust vertical position of rudder with markings you made on shaft.
9. Tighten rudder arm hardware and connect bonding wire.
10. Inspect and lubricate tie rod ends.
11. Adjust tie rod length to align both rudders.

DC Electrical System

CHARGE BATTERIES

Battery electrolyte levels should be checked regularly and kept at approximately 1/2 inch above the battery plates by adding distilled water.



To charge the batteries using AC shore current, move the SHORE 1 and the BATTERY CHARGER circuit breakers to the ON position.

To charge the batteries using the onboard generator, start the generator using the generator control switches on the DC side of the control center. After the generator starts, move the GENERATOR and the BATTERY CHARGER circuit breakers to the ON position.

Freshwater System

CLEAN THE WATER TANK

Fill the freshwater tank using a plastic hose. Rubber hoses can add an objectionable taste to the water.

To clean your new freshwater system, or the system after a long period of storage, use the following procedure:

1. Make a solution of 2-1/2 cups (20 oz.) of household bleach and 10 gallons of water.
2. Pour the solution into the empty tank and fill the tank with freshwater.
3. Start the freshwater pump and bleed all the air from the freshwater system. Start with the faucet farthest from the pump.
4. Allow the treated water to stand for 3 to 4 hours.
5. Drain the tank and lines. Flush the entire system with clean freshwater. Fill the tank with freshwater.
6. If an excessive chlorine taste is still present, make a solution of 1 quart of vinegar and 5 gallons of water. Add the solution to the system and let it remain in the system for several days.
7. Drain the system and flush with clean freshwater. Fill the tank and bleed the air from all the lines.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Bilge

CLEAN THE BILGE AREA

Pump bilge area dry and remove all loose dirt. Make sure all drain passageways and bilge pump strainers are clear.

After time, the bilge will collect dirt and oil. DO NOT use flammable solvents to clean the bilge. Frequent cleaning with a commercial bilge cleaner will loosen oil and dirt and make cleaning easy. Consult your Cruistar Incorporated dealer for instructions and use.

Hull

GELCOAT CARE

A complete washdown of all exterior gel coated surfaces with a mild detergent and clean water after each outing is recommended. DO NOT use detergents that contain ammonia or chlorine. Alcohol or kerosene may be used for stubborn stains. Light sanding and buffing will remove most stains and shallow scratches.

In areas where your boat is stored for winter months, a pre-launch waxing for the season should suffice. In southern areas, wax the exterior surfaces at least semi-annually. A specially formulated fiberglass wax is recommended to prevent any color fade and soil adhesion. If waxing alone does not bring back the shiny appearance, hand buffing with DuPont #7 Rubbing Compound or power buffing with Mirror Glaze #1 may be necessary.

GELCOAT REPAIR

Scratches or blemishes in the gelcoat may detract from the appearance of your boat, but they do not affect the strength or integrity of the fiberglass hull or the component which the gelcoat covers.

A gelcoat repair kit (available from your authorized dealer) permits the user to repair minor scratches and nicks in the gelcoat.

Minor scratches can be removed by wet sanding. Start with 320 grit first, sanding lightly until the scratch starts to disappear. Use 400 grit until the scratch is gone. Finish sanding with 600 grit and buff the area with rubbing compound. Rub hard at first and then lighten up to polish the area.

FIBERGLASS REPAIR

"Fiberglass" refers to fiberglass reinforced plastic construction of the hull, deck, and cabin fabrications beneath the thin gelcoat skin. Fiberglass repairs require the use of special tools and following precise repair instructions. Your Cruistar Incorporated dealer is skilled in handling these repairs and also has available fiberglass repair kits for boat owners to make their own repairs, if capable.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

If you decide to make repairs yourself, tools and materials you will need are:

- Fiberglass Repair Kit
  - Acetone
  - Resin
  - Hardener
  - Fiberglass
  - 400 and 600 Grit Wet Sand Paper
- Polishers/Buffer
- Automotive-Type Rubbing Compound
- Putty Knife

An excellent resource booklet for instructions on small fiberglass repairs is "HOW TO REPAIR FIBERGLASS BOATS", published by Ferro Corporation, Nashville, Tennessee, 37211.

ANTI-FOULING BOTTOM PAINT

Before selecting a bottom paint, talk with other boaters and your dealer to determine which product works best in your area. Many variables affect the bottom paint such as water temperature, pollution, salinity, currents, suspended dirt and organic matter, and sunlight.

Fiberglass hulls should never be landed, cleaned, painted and launched in the same day. Moisture in the old paint must be allowed to escape completely to get good adhesion between the new and old paint. Also, allow sufficient drying time before launching your boat; follow paint manufacturer's suggestions.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

General Care and Cleaning

DECK FITTINGS AND HARDWARE

Stainless steel has been used wherever possible on your boat. It is not totally resistant to corrosion. Regular cleaning and polishing with a chrome or stainless steel polish will maintain and extend its life. A daily rinsing with clear water to remove any salt residue is suggested. A light wipe-down with WD-40 or LPS sprayed on a soft rag after each washdown will enhance its appearance.

Inspect all screws, clamps and fittings. Tighten any loose hardware when necessary.

EXTERIOR AND SEAT VINYL

Regular washing with mild soap and warm water or vinyl upholstery cleaner is sufficient to keep the cushions and vinyl coverings in good condition. Keep the cushions from becoming water soaked to prevent any mildew accumulation. Wipe the cushions dry and lightly spray them with Lysol to help prevent mildew.

INTERIOR WALL COVERINGS AND OVERHEAD

Vinyl interior wall coverings may be sponge-cleaned with quality vinyl cleaners or with a 50/50 solution of mild detergent and water. Blot dry with a clean cloth after cleaning.

The interior overhead may be cleaned with upholstery cleaner.

WINDOWS

- Plexiglass and Vinyl Windows.
  First, flush the plexiglass and vinyl with clean water. Use your bare hand with plenty of water to loosen any dirt. A clean soft rag may then be used with a mild non-abrasive soap or detergent. Dry carefully with a soft damp cloth or chamois.

- Sliding Windows.
  Avoid cleaners containing sodium or calcium hypochlorite or cleaners that give off a chlorine odor. These types of cleaners can damage the nylon pile window channel runners.

CANVAS

To remove dust and dirt, regularly brush canvas with a soft-bristled brush and rinse with clean water. For more soiled canvas, use a mild solution of household soap in lukewarm (100°F max.) water. DO NOT use detergents. Rinse canvas with clean water to remove all soap. Allow canvas to drip dry.

If canvas is heavily soiled and stained, soak the canvas for approximately 20 minutes in a solution of:

1/2 cup (4 oz.) bleach
1/4 cup (2 oz.) household soap
1 gallon water

Rinse canvas with clean water to remove all soap and drip dry. Excessive soaking in bleach can deteriorate stitching threads. This method can reduce the water repellency of the canvas. Have the canvas treated with a water repellent as necessary.

The canvas can be dry-cleaned, but it will have to be treated with a water repellent after cleaning. DO NOT put canvas in a dryer or steam press because it will shrink! Allow canvas to hang until completely dry.

Canvas can be rolled or folded when completely dry and stored in a dry place. DO NOT fold or crease the clear vinyl windows in the canvas.

Downloaded from CruisersOwners.forum.com
http://www.CruisersOwners.forum.com

Section 9 - Accessory Items

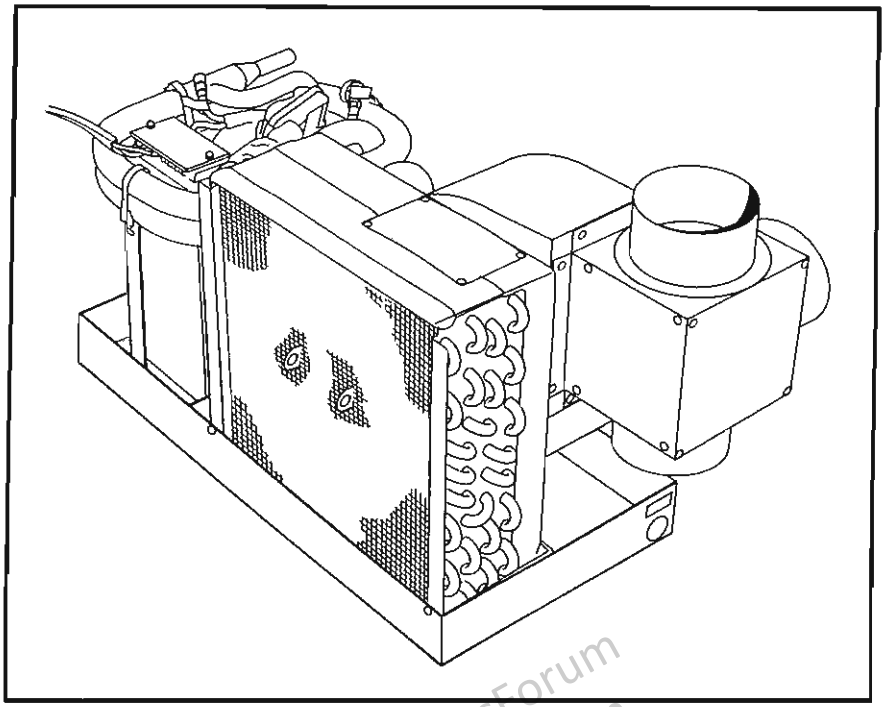
ACCESSORY ITEMS **9-2**

Air Conditioner/Heater Units 9-2
Air Horn 9-3
Battery Charger 9-3
Bridge Entertainment Center 9-3
Carbon Monoxide Detector 9-4
Cockpit Shower 9-4
Courtesy Lights 9-5
Covers 9-5
Gas Fume Detector 9-5
Halon Automatic Fire Extinguisher 9-6
Microwave 9-6
Refrigerator/Freezer-Galley 9-6
Salon Color Television and VCR/VHS 9-7
Spotlight 9-7
Stove Top 9-8
Telephone Jack and Dockside Receptacle 9-8
Trim Tabs 9-9
Windlass 9-9

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

ACCESSORY ITEMS

Air Conditioner/Heater Units



The air conditioning/heating consists of three heat pump units and a seawater pump. The units and pump receive 115 volt power from shore hookup or the auxiliary generator. The seacock must be open and the AIR COND PUMP and AIR COND FWD, AIR COND AFT and/or AIR COND SALON circuit breakers must be on to operate the heating/cooling system. Refer to Air Conditioner Manuals for control panel operation.

There are two 16,000 BTU units and one 9,000 BTU unit. One of the 16,000 BTU units is located behind the refrigerator and the other one is installed in the salon. The 9,000 BTU air conditioner is located in the aft stateroom. The air conditioner located behind the refrigerator cools the galley and the forward stateroom.

The controls for the forward stateroom and salon units are located forward of the AC/DC control panel. The control for the aft stateroom unit is located at the port side of the aft stateroom.

Supply vents are located in the galley, forward stateroom, salon and aft stateroom areas. The return air grilles are located at the port and starboard sides of the salon area, and in the vertical face of the bulkhead at the rear starboard side of the aft stateroom. The return grilles have cleanable filters.

CAUTION

Do not block return air grilles. Keep air filters clean. Air flow restriction will occur, causing inefficient operation and unnecessary strain on the system.

Downloaded from CruisersForum.com
http://www.cruisersforum.com

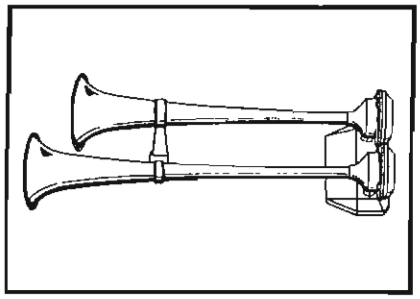
Raw water is drawn from the seacock, through a strainer and to the pump. The pump supplies all units with a continuous flow of water in heating and cooling modes.

⚠ *CAUTION*

Inspect and clean strainer regularly; damage can occur to pump or compressors if the units do not receive a sufficient flow of water.

Refer to the heat pump manufacturer's manual in the skipper's kit for complete operation and service instructions.

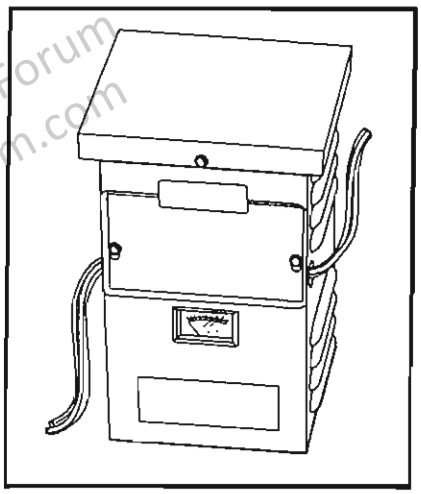
Air Horn



The dual trumpet air horn is operated by pushing a button on the lower portion of the gauge panel to the portside of the helm. The horn circuit is protected by a resettable circuit breaker located near the horn button. The DC MAIN and FLYBRIDGE SUPPLY, or optional LOWER STA SUPPLY, circuit breakers must be on to operate the horn.

The compressor is

Battery Charger



The 80-amp battery charger can provide continuous battery charging. When the charger receives power from shore or the auxiliary generator,it converts AC power to 12 volts DC and distributes the charge automatically to any or all the batteries as needed.

To operate the battery charger, the circuit breaker, BATTERY CHARGER, must be in the ON position.

For further information on the battery charger, refer to the owner's manual in your skipper's kit.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Bridge Entertainment Center

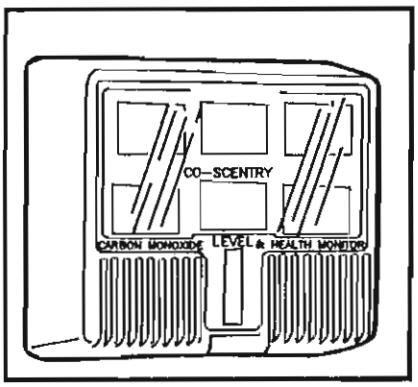
Wet Bar The wet bar consists of a sink with pressurized cold water, insulated ice bin, bottle rack, slide out glass and bottle storage and the refrigerator listed below. The fresh water system must have water in the tank and the FRESHWATER PUMP circuit breaker must be on to get water to the bridge.

Do not use cleansers or an abrasive for clean up; use only mild soap and water.

Refrigerator The refrigerator can operate on 12 volt DC or 115 volt AC. Both DC REFRIG and REFRIG 1 circuit breakers must be on to operate the refrigerator on the bridge. This allows the refrigerator to automatically switch between AC or DC voltage. When both voltages are available, 115 volt AC takes precedent.

The temperature control is inside the unit; the higher the number, the colder the temperature.

AM/FM/Cassette Stereo The bridge stereo system is to the portside of the helm below the gauge panel. The STEREO and DC MAIN circuit breakers must be on to operate the stereo. The stereo has two bridge mounted speakers and is independent of the salon stereo.



See the stereo and refrigerator information in the skipper's kit for operation and care of the stereo and refrigerator.

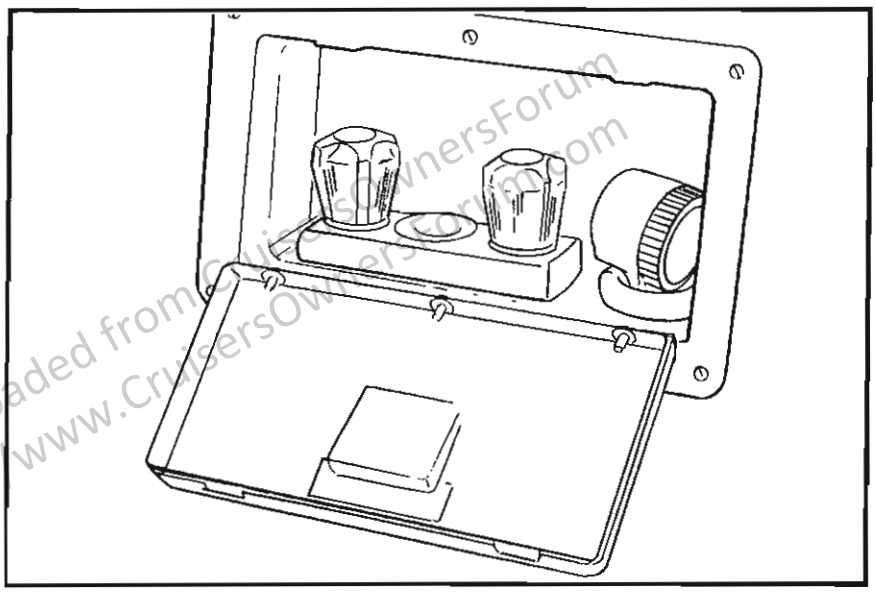
Carbon Monoxide Detector

The carbon monoxide detector warns of carbon monoxide in the air and tracks the level over an extended period of time. The detector, with visible and audible alarms, operates on 12 volts DC. Locations for the detectors include the aft stateroom, salon, and forward stateroom.

Refer to your skipper's kit for operating instructions in the carbon monoxide handbook.

Cockpit Shower

The shower head, hose, hot and cold valves are located on the port side of the transom. The shower is functional only when the freshwater system contains water and the FRESH WATER circuit breaker is on.



Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

Courtesy Lights

The courtesy lights illuminate the bridge entrance for safe movement in and out of the flybridge. The DC MAIN and FLYBRIDGE MAIN circuit breakers must be on to supply 12 volts DC to the light switch.

The lights are controlled by a rocker switch on the starboard side of the helm. The circuit is protected by a resettable circuit breaker above the switch.

Covers

Bimini Top, Front, Side and Aft Curtains The bimini top covers the bridge area and with the curtains, the bridge area is enclosed allowing operation in inclement weather. Do not fold or crease clear vinyl panels; roll them for storage. Nylon straps hold the rolled up door open for easy access to the bridge.

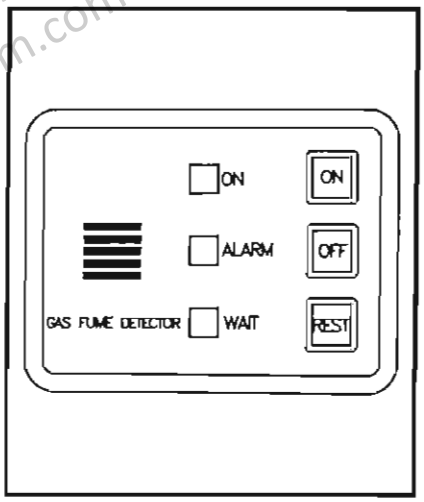
Bridge Mooring Cover The bridge cover stretches over the bridge and snaps in place to keep it clean and dry when the boat is not in use. To install the cover, start at the bottom of the venturi windshield and work back along the sides and then across the back.

Hardtop The fiberglass hardtop mounts over the bridge area providing limited protection.

Refer to "General Maintenance" in this manual for care and cleaning of canvas and fiberglass covers.

Gas Fume Detector

The gas fume detector warns of any concentration of potentially explosive gasoline vapor in the engine compartment. The control and audible alarms are mounted on the starboard side of the helm. 12 volt power is supplied to the unit at all times. The control remains on as a safety precauuon; it has very little current draw.

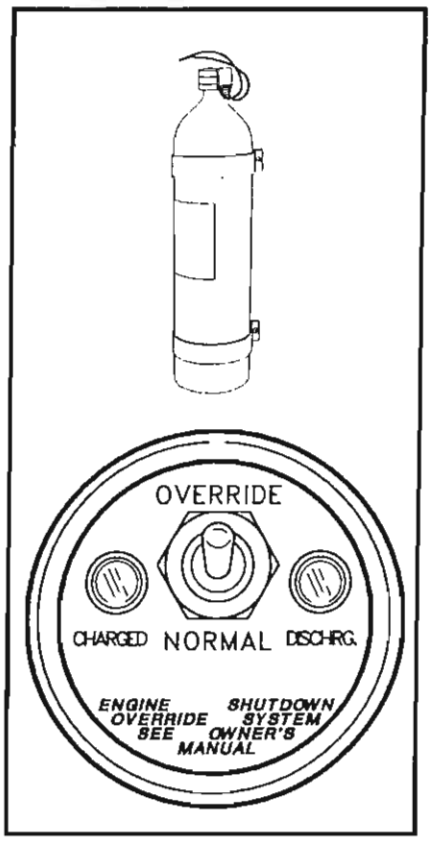


IMPORTANT

The detector is not intended to eliminate the need to physically sniff and inspect the bilge for gas fumes and leaks. Also, it does not eliminate the use of the blowers.

Refer to the instructions for operation of the unit contained in your skipper's kit.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com



Halon Automatic Fire Extinguisher

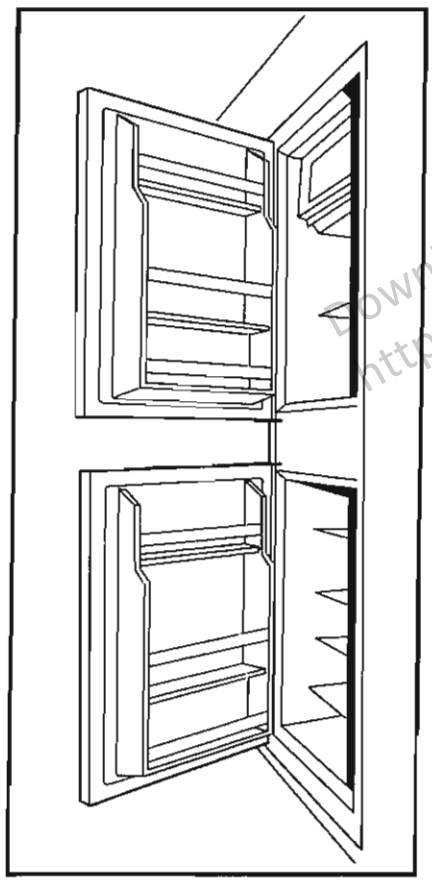
The automatic fire extinguishing system uses DuPont Halon 1301 as an extinguishing agent. The extinguisher canister is mounted on the forward engine compartment bulkhead. When the temperature in the engine compartment reaches a predetermined level, the heat sensitive head will automatically discharge, saturating the engine compartment and smothering the fire. A visual indicator is located to the port side of the helm showing charge or discharged conditions.

The fire extinguishing system includes an engine shut-down feature with an override switch located with the visual indicators. After a fire extinguisher discharge, the override switch must be in the OVERRIDE position to start the engines.

⚠ *WARNING*

When extinguisher discharge occurs, shut down all engines, bilge blowers and electrical systems. DO NOT open the engine hatches immediately! This will allow oxygen to the fire and flashback can occur.

Refer to your skipper's kit for further information on the the Halon fire extinguisher.



Microwave

The 115 volt power to the microwave is supplied by shore hookup or the auxiliary generator only. The microwave is protected by a circuit breaker in the main AC panel marked MICROWAVE.

Refer to the booklet in your skipper's kit for complete operating and care instructions.

Refrigerator/Freezer-Galley

The refrigerator/freezer consists of two units. Both operate from 12 volts DC while underway, and from 115 volts AC during shore hookup or auxiliary generator operation. The REFRIG circuit breaker, on the AC master panel, must be "on" for AC volts refrigerator/freezer power. The MASTER BATTERY switch on the DC master panel must be "on" for unit operation while underway.

The lower unit is the refrigerator and the upper unit is the freezer. Each unit has a pin at the top of the door to prevent the doors from opening while underway.

See the refrigerator/freezer information in your skipper's kit.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

⚠ *WARNING*

DO NOT use the first few cycles of ice cubes after turning the unit on. The water line to the ice maker may contain contaminates incurred during storage.

See the refrigerator/freezer information in your skipper's kit for care of the units.

Salon Color Television and VCR/VHS

The color television, VCR and spoiler-mounted antenna require 115 volt AC shore or auxiliary generator power to operate. The starboard OUTLETS circuit breaker must be on to operate the system.

Included is a dockside television antenna hookup for connection to a remote antenna or cable, and an A/B splitter. The splitter is adjacent to the television. To use the dockside antenna or cable, slide the switch from B (ship) to A (shore).

See the information contained in the skipper's kit for operation and care of the television and VCR.

Deluxe Stereo AM/FM Radio/Cassette/CD Player

This system is located in the salon area. The AC supply and the starboard OUTLETS circuit breaker must be on to operate these components.

See the information contained in the skipper's kit for operation and care of the stereo and CD player.

Optional TV with Remote Control

The forward and aft staterooms may have color TV with remote control. Antenna connections are described above under "Color Television and VCR/VHS".

See the information contained in the skipper's kit for operation and care of the TV and remote control.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Spotlight

The 7-inch remote control spotlight is a spotlight and floodlight combination mounted on the top rail of the bow pulpit. The FLYBRIDGE SUPPLY and DC MAIN circuit breakers must be on to operate the spotlight.

The light is controlled by a switch, a joy stick and a rheostat located on the starboard side of the helm. The circuit is protected by a resettable circuit breaker near the switches. The three position switch functions are OFF, ON and FLOODLIGHT. The joy stick moves the light up, down, right or left. The rheostat controls the speed of light's movement.

More information can be found in the skipper's kit for service and care of the spotlight.

Stove

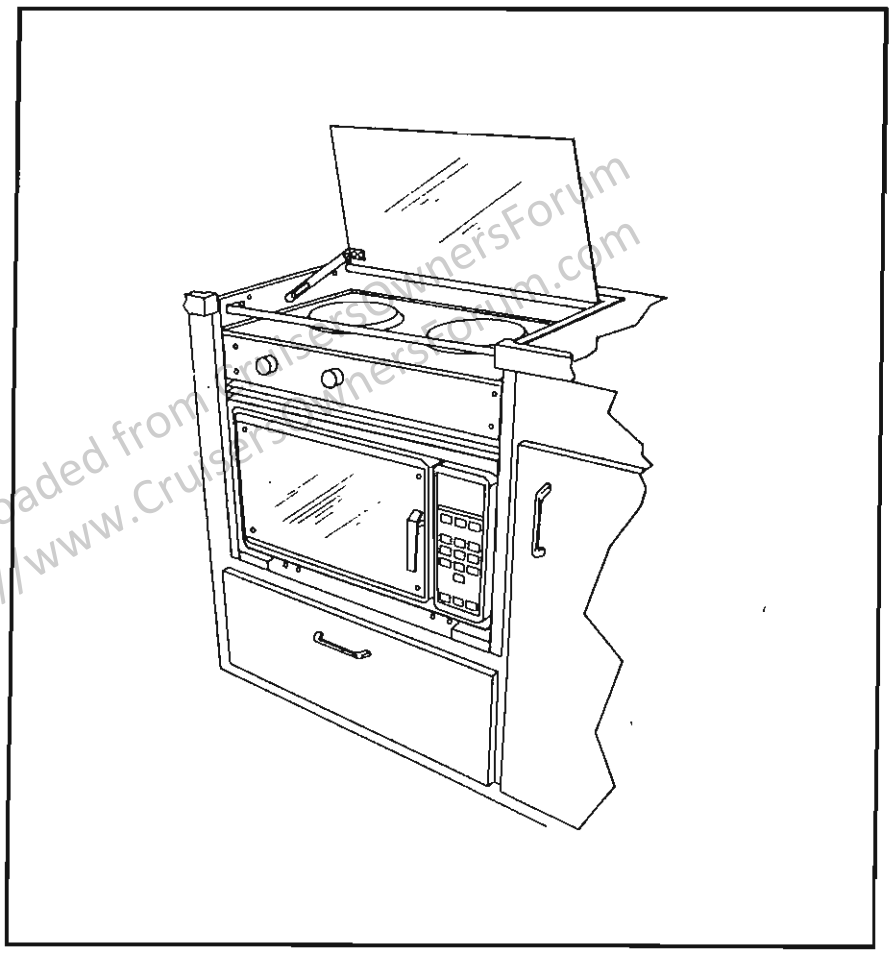
The 2-burner electric stove top gets its power from 115 volt shore or auxiliary generator only. It is protected by a circuit breaker in the main AC panel marked STOVE.

The top is covered with a lift-up tempered glass cover which is locked in the up position while cooking. Each burner surface has its own temperature control.

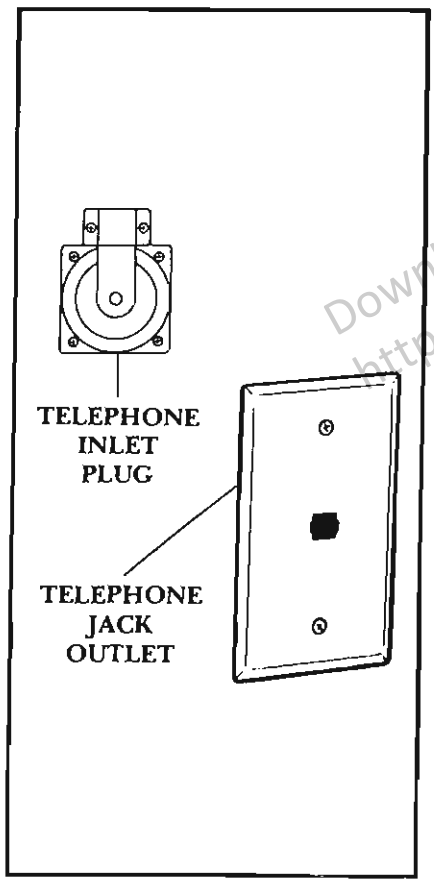
⚠ *CAUTION*

The glass cover must not be down while either burner is on. The heat build up will cause damage or fire to galley area.

Release lock on left side of the stove to lower glass cover. See your skipper's kit for booklet on operating and care of the stove.



Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com



Telephone Jack and Dockside Receptacle

The telephone includes a waterproof telephone inlet plug on the starboard side, forward of the shore power connectors. Telephone jacks are conveniently located throughout the salon and stateroom areas.

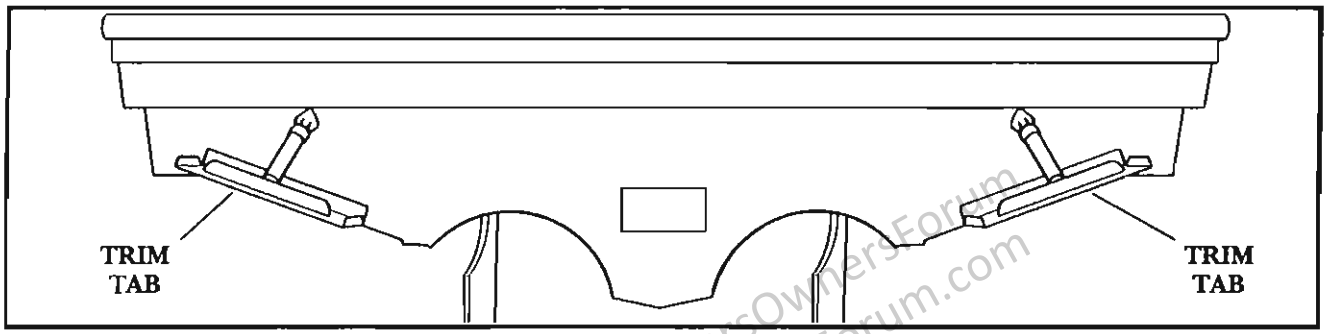
Trim Tabs

The two trim tabs, located on the transom, help to correct the attitude and control your boat. The tabs are controlled individually by rocker-type switches located to the starboard side of the helm. A resettable circuit breaker on the helm circuit breaker panel protects the circuit from any overload. If the optional lower station helm is installed, the trim tab switches are located at the starboard side of the steering wheel and the resettable circuit breaker is above the switches.

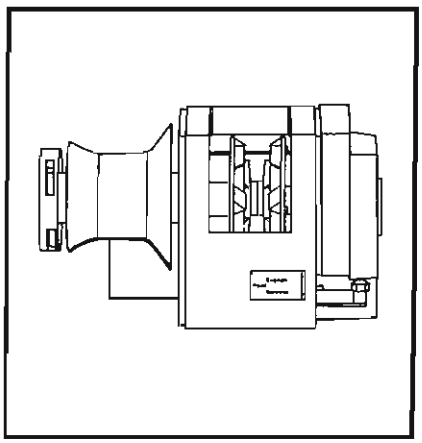
Push rocker switches in only half second intervals to avoid over-correction.

The trim tab pump is located aft of the starboard engine. The system uses Type A Dextron II automatic transmission fluid.

Refer to "Suggested Maneuvering Techniques" in this manual for information on trimming your boat. Also check your skipper's kit for further information on the trim tab system.



Windlass



The windlass is designed to handle either rope or chain. Lowering the anchor requires a hand at the windlass. The safety lock on the portside of the windlass must be released by putting it in the down position. The clutch/brake control must be released using the handle provided.

IMPORTANT

The clutch/brake control has left hand threads. The rate of decent is controlled by loosening or tightening the clutch/brake with the handle.

After the proper scope (amount of line) is fed out, tighten the clutch/brake and reset the safety lock to set the anchor. There is approximately 300 feet of line on the windlass.

Weighing (lifting) anchor can be done from the flybridge helm, using the switch on the port side of the helm. The DC MAIN and FLYBRIDGE MAIN circuit breakers must be on to operate the windlass. The windlass circuit is protected by a resettable circuit breaker above the switch. Remember to set the safety lock and tighten the clutch/brake control after weighing anchor.

See your Skipper's Kit for information on safe operation and service of the windlass.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

Section 10 - Troubleshooting

TROUBLESHOOTING **10-2**
Engine and Powertrain 10-2
Electrical 10-4
Plumbing 10-5

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

TROUBLESHOOTING

The following charts will assist you in finding and correcting minor mechanical and electrical problems with your boat. Contact your nearest authorized Cruistar Inc. dealer for problems and procedures requiring the skill of a trained service technician.

To correct a problem, first determine what the problem is. Then eliminate the simpler causes, working to the more complex causes.

Engine and Power Train

NOTE

For further troubleshooting information other than given here, refer to the engine owner's manual in the skipper's kit.

WARNING

Disconnect battery cables before making checks or adjustments around engine and electrical components. Personal injury or damage to the boat may occur.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine will not start.	Fuel valves are closed or fuel tank is empty.	Check fuel valves or fill tank.
	Contaminated fuel.	Check fuel for contaminants or water. If fuel is contaminated, drain tank and lines, flush with clean fuel and replace fuel filters. See Cruistar Dealer for Service.
	Loose wiring or bad key switch.	Look for any loose connections. Contact technician to replace switch if necessary.
	DC main and/or ignition circuit breakers are OFF.	Turn all breakers ON.
Low starter speed.	Weak or bad battery.	Have battery tested or charged.
Starter will not turn engine crankshaft.	Corroded battery terminals.	Clean terminals.
	Loose wiring connections.	Clean and tighten all wire connections.
	Weak or discharged battery.	Charge battery.
	Defective starting switch.	Contact authorized dealer for switch replacement.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

PROBLEM	POSSIBLE CAUSE	SOLUTION
Lack of power.	Throttle not fully open.	See authorized dealer for throttle linkage adjustment.
	Contaminated fuel.	Drain fuel tank and lines; flush with clean fuel and replace fuel filters. See Cruistar Dealer for service.
Erratic engine speed.	Pinched or clogged fuel lines or tank vent line.	Replace line or remove obstruction. See Cruistar Dealer for service.
	Contaminated fuel.	Drain fuel tank and lines; flush with clean fuel and replace fuel filters. See Cruistar Dealer for service.
Engine overheats.	Engine cooling water seacock closed or water pick-up is blocked.	Open seacock or remove obstruction.
	Leaking or pinched water lines.	Repair or replace water lines. See Cruistar Dealer for service.
Transmission shifts hard.	Corroded or pinched linkage.	Replace or lubricate linkage as necessary. See Cruistar Dealer for service.
Excessive vibration. NOTE: Some vibration is normal due to engine and prop action.	Foreign objects obstructing the propeller.	Remove objects from prop, shaft or rudder by reversing prop or cutting and pulling away obstruction.
	Bent prop or shaft.	Replace prop or shaft as necessary. Make sure prop is not pulled off shaft center by the prop key. See Section 8.
	Engine and shaft are misaligned.	Check engine and shaft alignment. Alignment must be within 0.003 in. See Section 8.
	Engine or transmission components touching a brace or some part of the hull.	Check engine mounts and components for proper alignment. See Section 8.
	Flexible shaft log "whip" is excessive and strikes the shaft hole.	Check shaft log for wear and avoid sudden torque changes. See Cruistar Dealer for service.
	Engine not timed properly or misfiring.	Have engine tuned-up by an authorized dealer.
	Bent rudder.	Replace rudder. See Cruistar Dealer for service.
	Worn strut, engine or transmission bearings.	Bearings replaced by authorized dealer as necessary.
	Engine-to-shaft couplings out-of-round or off center.	Have couplings checked by an authorized dealer.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

PROBLEM	POSSIBLE CAUSE	SOLUTION
Poor performance.	Boat is overloaded or weight is badly distributed.	Reduce overload or distribute load evenly. Trimming the boat will also help.
	Material wrapped around the propeller.	Run prop in reverse or cut and pull material from prop.
	Damaged or use of wrong propeller.	Inspect propeller; replace as necessary. See Section 8.
	Boat hull has marine growth on it or hull is damaged.	Clean or repair hull as necessary. See Section 8.
	Excessive bilge water.	Pump water out and inspect hull for leaks.
	Engine is misaligned.	Have engine alignment checked by an authorized dealer.

Electrical

NOTE

For any troubleshooting information other than given here, refer to the individual component owner's manuals in the skipper's kit.

CAUTION

Never reset a circuit breaker which has been automatically tripped without first locating and correcting the problem.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

PROBLEM	POSSIBLE CAUSE	SOLUTION
Electrical component will not function.	Circuit breaker in the tripped or OFF position.	If breaker is tripped, correct the problem and reset; otherwise turn circuit breaker ON.
	Weak or discharged battery.	Charge battery.
	Loose or broken wire connection.	Connect or repair wire as necessary. Install plug in outlet.
Lights do not come on or are dim.	Circuit breaker in the tripped or OFF position.	If breaker is tripped, correct the problem and reset; otherwise turn circuit breaker ON.
	Weak or discharged battery.	Charge battery.
	Loose or broken wire connection.	Connect or repair wire as necessary.
	Light bulb burned out.	Replace bulb.
Generator will not start.	DC main circuit breaker in OFF position.	Turn circuit breaker ON.
No power at AC outlets.	Ground fault circuit interrupter tripped.	Reset button on outlet and test. If reset button or light does not come on, DO NOT use any outlets. Have circuit checked by qualified technician.

Plumbing

NOTE

For any troubleshooting information other than given here, refer to the individual component owner's manuals in the skipper's kit.

CAUTION

Never reset a circuit breaker which has been automatically tripped without first locating and correcting the problem.

PROBLEM	POSSIBLE CAUSE	SOLUTION
No water at showers or sinks when faucets are turned on.	FRESHWATER PUMP circuit breaker tripped or off.	If breaker is tripped, correct the problem and reset; otherwise turn circuit breaker ON.
	Freshwater tank is empty.	Fill freshwater tank.
	Pump is defective.	Have pump serviced by authorized dealer.
Low water pressure at all showers and sinks.	Water system has lost its charge.	Check for leaks in water system or air leaks in accumulator. See Cruistar Dealer for service.
	Weak or worn pump.	Have pump serviced by authorized dealer.
Low water pressure at only one shower or sink.	Restriction or obstruction in water line.	Clean, repair, or remove obstruction from water line.
Shower sump overflows.	SUMP PUMP circuit breaker in the tripped or OFF position.	If the breaker is tripped, correct the problem and reset; otherwise turn circuit breaker ON.
	Discharge lines blocked or pinched.	Remove obstruction or straighten line.
	Pump or automatic switch is defective.	Have pump or switch serviced by authorized dealer.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

PROBLEM	POSSIBLE CAUSE	SOLUTION
Head will not flush.	HEAD FWD or HEAD AFT circuit breaker in the tripped or OFF position.	If breaker is tripped, correct the problem and reset; otherwise turn circuit breaker ON.
	Low battery charge.	Charge the batteries.
	Flush water seacock not open.	Open seacock.
	Inlet pedal valve not working.	Have head serviced by authorized dealer.
Head will not empty.	Y valve not open or line to holding tank is blocked.	Open Y valve or remove obstruction.

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com

CRUISERS

A division of CRUISTAR INCORPORATED

LIMITED WARRANTY

REGISTRATION OF PURCHASE: A requirement of the Federal Boat Safety Act of 1971 provides for defect notification to first purchasers. Failure to register your purchase with the manufacturer constitutes waiver of the right to defect notification. Registration likewise simplifies service, should it ever be required. First purchasers are encouraged, therefore, to register their purchase within 30 days after the date of delivery, but this is not a condition precedent to obtaining warranty performance.

WARRANTY COVERAGE: CRUISERS, a division of CRUISTAR INCORPORATED, warrants to you, Consumer, subject to the limitations and exclusions described below, that those parts of the new boat manufactured by CRUISERS are free from defects in material and workmanship under normal use and service. The duration of this warranty is as follows: (1) as to the hull and deck, for a period of 5 years beginning the date of delivery to the first Consumer; and (2) as to other parts and components manufactured by CRUISERS (except the paint or gelcoat finishes and vinyl or fabric upholstery or carpeting, which are not warranted), for a period of 1 year beginning the date of delivery. For new boats ordered and shipped with the optional factory applied anti-fouling bottom paint, CRUISERS warrants the gelcoat finish against blistering for a period of 2 years beginning the date of delivery; provided, however, that the bottom of the boat is maintained and recoated between the first and second year after delivery, at the Consumer's expense, with a quality anti-fouling bottom paint pursuant to CRUISERS' instructions and specifications.

WARRANTY CLAIMS PROCEDURES: If a defect is discovered during the applicable warranty period, Consumer must promptly notify the selling dealer (or CRUISERS) of such in writing. In no event shall such notification be received by the dealer (or CRUISERS) later than 30 days after the applicable period of warranty. All warranty claims should first be made to the dealer from whom the boat was purchased. For warranty service, the boat must be returned to the selling dealer, or if in the selling dealer's opinion service is required at the factory, to CRUISERS' factory. A boat may not be returned to the factory unless prior written authorization for such return has been obtained from the SERVICE MANAGER - CRUISERS. A returned boat must be prepared and transported (preparation and transportation charges prepaid by Consumer) in accordance with instructions set forth in CRUISERS' return authorization. If, for any reason, the dealer does not provide satisfactory warranty service, please notify the SERVICE MANAGER - CRUISERS.

REMEDY: Within a reasonable time after notification, CRUISERS will repair any defect in materials or workmanship or, at its option, correct such defect by replacing nonconforming goods or parts. Such repairs and/or new parts are warranted for the unexpired portion of the original warranty, or for 90 days, whichever is longer. Warranty work (parts and/or labor) shall be at CRUISERS' expense; however, boat preparation and transportation costs to or from the selling dealer or CRUISERS' factory shall be borne by Consumer. These remedies are the Consumer's exclusive remedies for breach of warranty.

LIMITATIONS AND EXCLUSIONS: (1) This warranty applies only if the boat is used under noncommercial normal use and service, and shall not apply to (a) boats subjected to negligence, abuse, misuse, or accident, (b) boats subjected to improper operation, trailering, maintenance or storage, commercial use or use for purposes other than those for which the boat is designed, (c) defects or damages caused by a force majeure which exceeds design specifications, including but not limited to, exposure to harmful solvents and electrolysis by reversed polarity electrical connections, and (d) defects or damages caused by unauthorized attachments or modifications. (2) CRUISERS' warranties of fitness and merchantability as well as any other express warranties contained herein shall apply only to those parts and components manufactured by CRUISERS which were installed by factory or other authorized personnel, and shall not be effective or actionable if any repair or replacement work is performed by any unauthorized party. (3) THIS WARRANTY DOES NOT COVER THE BOAT ENGINE, WHICH WARRANTY, IF ANY, SHOULD BE OBTAINED FROM THE ENGINE MANUFACTURER. (4) This warranty does not cover window or windshield breakage and does not apply to paint or gelcoat finishes (except as noted above), or to vinyl or fabric upholstery, or to carpeting.

Downloaded from CruisersOwnersForum.com
http://www.CruisersOwnersForum.com

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, DO NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTIES PROVIDED HEREIN.

IN NO CASE SHALL CRUISERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL THEORY. THIS LIMITATION DOES NOT APPLY TO CLAIMS FOR PERSONAL INJURY.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

TRANSFERABILITY: All rights and terms of this limited warranty may be transferred to new owners of the covered product by completing a TRANSFER OF WARRANTY FORM and submitting it to CRUISERS.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

CRUISERS, a division of CRUISTAR INCORPORATED 804 Pecor Street, Oconto, Wisconsin 54153 (414/834-2211)

lem'031

Downloaded from CruisersOwnersForum
http://www.CruisersOwnersForum.com